

EXHIBIT 5

Proposed Restated Agreement
(marked to reflect changes as compared to the Existing Agreement)

[Changes to this Cross-Margining Agreement, as amended and restated by File No. SR-FICC-2023-010, are available at dtcc.com/legal/sec-rule-filings. These changes have been approved by the SEC but have not yet been implemented. By no later than 180 business days after the later date of the SEC’s approval of SR-FICC-2023-010, [insert date of the approval of SR-FICC-2023-010], and the CFTC’s approval of CME’s proposed rule change, [insert date of the approval when available], these changes will become operative and this legend will be automatically removed from the Amended and Restated Cross-Margining Agreement.]

AMENDED AND RESTATED
CROSS-MARGINING AGREEMENT

This Amended and Restated Cross-Margining Agreement (~~together with all Appendices, this “Agreement”~~) is entered into as of this ~~second~~ day of ~~January, 2004*~~, 2023 by Fixed Income Clearing Corporation (“FICC”), a New York corporation, and Chicago Mercantile Exchange Inc. (“CME”), a Delaware corporation (FICC and CME, each a “Party” and together, the “Parties”).

RECITALS

A. ~~A.~~ FICC is registered as a clearing agency ~~registered~~ with the U.S. Securities and Exchange Commission (the “SEC”) under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and, ~~through its Government Securities Division,~~ acts as a clearing organization for ~~trading in the over the counter market for~~transactions involving U.S. Government securities, securities of U.S. federal Agencies and U.S. Government-sponsored enterprises, ~~and~~ financing products (“Government Securities”) and certain mortgage-backed securities.

~~B.~~ ~~CME acts as the clearing organization for certain futures contracts and options on~~
B. ~~futures contracts that are traded on the CME and the Chicago Board of Trade (“CBOT”) which have been designated as contract markets for such contracts by~~CME is registered as a derivatives clearing organization with the Commodity Futures Trading Commission (the “CFTC”) ~~pursuant to~~under the Commodity Exchange Act, as amended (the “CEA”). ~~The CME is registered as a derivatives clearing organization pursuant to the CEA.~~ “CEA”), and acts as a clearing organization for futures contracts and options on futures

* As amended by Amendment No. 1, dated October 11, 2005, Amendment No. 2, dated February 5, 2007, Amendment dated February 28, 2011, and Amendment dated June 9, 2014. Appendix A was most recently amended June 9, 2014. The notice provisions for FICC and CME were amended on February 28, 2011. The notice provisions for FICC and CME were further amended on February 3, 2016 and March 11, 2016, respectively.

contracts, including U.S. dollar-denominated interest rate and fixed income futures contracts and options on such contracts, and swaps.

~~C. FICC and CME desire to establish a Cross Margining Arrangement in order to cross margin products whose price volatility is sufficiently closely correlated that long and short positions in such products offset one another to some degree (as will be calculated under this Agreement) for purposes of determining margin requirements.~~

C. D. FICC and CME ~~desire to enter into this Agreement~~ have established a cross-margining arrangement whereby (i) entities an entity that are is a Clearing ~~Members~~ Member (defined below) of both FICC and CME, (a "Joint Clearing Member") and (ii) a Clearing ~~Members~~ Member of one such Clearing Organization that have has an Affiliate (defined below) that is a Clearing Member of the other such Clearing Organization, (a "Cross-Margining Affiliate") may elect to have their Margin obligations in respect of positions in ~~futures contracts and options on futures contracts in~~ Eligible Products in their proprietary accounts at CME offset against their Margin obligations in respect of (defined below) at CME and positions in Eligible Products at FICC to the extent permitted under this Agreement. carried in a Cross-Margining Account (defined below) and margined based upon the combined risk presented by positions in Eligible Products.

D. E. In order to facilitate such ~~a Cross Margining Arrangement, FICC and CME desire to establish procedures whereby CME will guarantee certain obligations of a~~ cross-margining arrangement, FICC and CME entered into that certain Cross-Margining Agreement, dated as of January 2, 2004 as amended (the "Original Agreement"), whereby CME guarantees certain obligations of Cross-Margining ~~Participant~~ Participants to FICC, and FICC ~~will guarantee~~ guarantees certain obligations of ~~a~~ Cross-Margining ~~Participant~~ Participants to CME, with reimbursement of amounts paid under such ~~guaranties to be~~ guarantees being collateralized by the positions and ~~margin~~ Margin of such Cross-Margining ~~Participant~~ Participants held by the ~~guarantor~~ Guarantor.

~~F. It is understood that FICC may enter into other cross-margining agreements similar or identical to this Agreement in the future that shall be added to Appendix A upon written notice thereof by FICC to CME as provided herein. This Agreement and all such other agreements are intended to be an integrated Cross Margining Arrangement. FICC Clearing Members that are, or that have Affiliates that are, Clearing Members of CME and one or more of such other clearing organizations may participate simultaneously in the Cross Margining Arrangement as contemplated in this Agreement and in such other cross-margining agreements. Each such other clearing organization shall be referred to hereafter as an "Other CO". Notwithstanding the above, it is understood that for purposes of this Agreement, CME Eligible Positions will be offset against FICC Eligible Positions and not against Eligible Positions at Other COs unless FICC and CME mutually agree otherwise. Except as disclosed on Appendix A (as amended from time to time), no other FICC cross-margining and loss sharing arrangements shall affect the obligations of the parties to this Agreement.~~

~~G. It is understood that CME is currently a party to other cross-margining and loss sharing agreements that are listed on Appendix A and may enter into additional cross-margining or loss sharing agreements in the future that shall be added to Appendix A upon written notice thereof by CME to FICC as provided herein. It is intended that CME's calculation of its Available~~

~~Margin under this Agreement will be subject to CME's prior satisfaction of its obligations under such other cross-margining and loss sharing agreements that are listed on Appendix A as having priority over this Agreement. Except as described in the previous sentence, the CME's other cross-margining and loss sharing agreements shall not affect the obligations of the parties to this Agreement. Except as disclosed on Appendix A (as amended from time to time), no other CME cross-margining and loss sharing agreements shall affect the obligations of the parties to this Agreement.~~

~~H. It is understood that FICC is currently a party to other loss sharing agreements (e.g., portfolio margining arrangements and cross-guarantee agreements), and may enter into additional loss sharing or cross-margining agreements in the future that shall be added to Appendix A upon written notice thereof by FICC to CME as provided herein. It is intended that FICC's calculation of its Available Margin under this Agreement will be subject to FICC's prior satisfaction of its obligations under such other cross-margining and loss sharing agreements that are listed on Appendix A as having priority over this Agreement. Except as disclosed on Appendix A (as amended from time to time), no other cross-margining and loss sharing arrangements shall affect the obligations of the parties to this Agreement.~~

E. FICC and CME now desire to amend and restate the Original Agreement to, among other things, enhance the efficiency of the current arrangement between the Parties, and to amend and restate the Original Agreement in its entirety on the terms set forth herein.

AGREEMENTS

In consideration of the ~~premises and~~ mutual covenants contained herein, the ~~parties~~Parties hereto agree as follows:

1. 1. Definitions. In addition to the terms defined ~~above~~elsewhere in this Agreement, certain other terms used in this Agreement shall be defined as follows:

~~“Adjustment Payment” means the payment that is required to be made in accordance with Section 7(f) of this Agreement when the worse off party (as defined in Section 7(d) of this Agreement) computes an Aggregate Net Surplus.~~

(a) “Affiliate” means, when used in respect of a ~~particular~~ Clearing Member of one Clearing Organization, a Clearing Member of the other Clearing Organization that directly or indirectly controls ~~such particular Clearing Member, or that is directly or indirectly,~~ is controlled by, or is under common control with such particular Clearing Member. Ownership of 50 ~~percent~~% or more of the ~~common stock~~equity interests of the relevant entity will conclusively be deemed to be in control of that entity for purposes of this definition.

~~(b) “Aggregate Net Loss” means the sum of any (1) Cross Margin Loss and (2) Available Margin if the Available Margin is less than the Cross Margin Loss (expressed as a positive number). In calculating their Aggregate Net Loss, the Clearing Organizations shall take into account any Preliminary Payment Obligation received. Allocated Net Gain” has the meaning set forth in Section 7(c)(ii).~~

(c) “Allocated Net Loss” has the meaning set forth in Section 7(c)(ii).

- (d) [“Bankruptcy Code” shall mean 11 U.S.C. §§ 101 et seq.](#)
- (e) [“Beneficiary” has the meaning set forth in Section 7\(i\).](#)
- (f) [“Business Day” means each day on which trading in Eligible Products is conducted and on which FICC and CME both conduct money settlements.](#)
- (g) [“CEA” has the meaning set forth in the recitals.](#)
- (h) [“CFTC” has the meaning set forth in the recitals.](#)
- (i) [“Claims and Losses” has the meaning set forth in Section 12\(b\).](#)
- (j) [“Clearing Member” means, with respect to FICC, any member of the netting system of the Government Securities Division of FICC deemed eligible for cross-margining by FICC, and with respect to CME, any clearing member of CME deemed eligible for cross-margining by CME.](#)
- (k) ~~“Aggregate Net Surplus” means, as applicable, (x) the sum of any Cross Margin Gain and Available Margin, or (y) if a positive number, Available Margin less any Cross Margin Loss. In calculating their Aggregate Net Surplus, the Clearing Organizations shall take into account any Preliminary Payment Obligation received.~~ [“Clearing Member Agreement” means the agreement set forth as Appendix A or B, as applicable, between the Clearing Organizations and a Clearing Member and, if applicable, its Cross-Margining Affiliate that elects to participate in the cross-margining arrangement established pursuant to this Agreement and the Rules.](#)
- (l) ~~“Applicable Residual Margin Amount” means the amount derived, as described in Section 5(a), from applying the lower of the CME Margin Rate or the FICC Margin Rate to the Residual Position in each Offset Class.~~
- ~~“Applicable Residual Margin Amount Used” means, in the cross-margining offset between a pair of Offset Classes at the Clearing Organizations as contemplated by Section 5(b) of this Agreement, the smaller of the long (short) Applicable Residual Margin Amount or the short (long) Applicable Residual Margin Amount in the pair of Offset Classes.~~
- ~~“Available Margin” means, when used in respect of the liquidation of a Clearing Member of FICC, the amount, if any, of: (i) the Clearing Member's Margin deposits, (ii) proceeds of, and obligations under, such Clearing Member's positions (other than proceeds from the liquidation of the Used Positions), and (iii) other collateral, credit support and proceeds thereof of such Clearing Member deposited with or held by FICC, that remains after all obligations of the Clearing Member to FICC (including, but not limited to, all liabilities to FICC arising as the result of the default of the Clearing Member and the satisfaction of obligations arising out of the agreements listed on Appendix A as taking priority to this Agreement) have been satisfied.~~ [“Available Margin” means, when used in respect of the liquidation of a Clearing Member of CME, the amount, if any, of: \(i\) the Margin deposited by such Clearing Member for its proprietary account\(s\) at CME, \(ii\) proceeds of, and obligations under, positions \(other than proceeds from the liquidation of the Used Positions\) in such Clearing Member's proprietary account\(s\), and \(iii\) excess margin, variation margin, option premia, other collateral, credit support and proceeds](#)

~~thereof related to such Clearing Member's proprietary account(s) deposited with or held by CME, including but not limited to performance bond and asset value of long option positions, that remains after all obligations of the Clearing Member to CME (including, but not limited to, all liabilities to CME arising as the result of the default of the Clearing Member and the satisfaction of obligations arising out of the agreements listed on Appendix A as taking priority to this Agreement) have been satisfied. In the case of either FICC or CME, "Available Margin" shall not include funds or property to the extent that such funds or property may not lawfully be applied by such Clearing Organization without violating any law or regulation by which such Clearing Organization is legally bound.~~

~~_____ "Base Amount of the Guaranty" means the amount of the Cross Margining Reduction as determined by Sections 8A(f) and 8B(f) that is in effect at any particular point in time without regard to any loss sharing.~~

~~"Business Day" means, unless otherwise expressly stated in the Agreement, a day on which trading in Eligible Products is conducted and on which FICC and CME both conduct money settlements.~~

~~"CBOT Eligible Products" means certain futures contracts and options on futures contracts cleared by CME that are traded on the CBOT as identified on Appendix B.~~

~~"Clearing Member" means any member of the netting system of the Government Securities Division of FICC deemed eligible for cross margining by FICC or any clearing member firm of CME, including any CBOT member that has been designated by the CME as a Special CME Clearing Member, deemed eligible for cross margining by CME.~~

~~(m) "Clearing Organization" means either FICC, acting through its Government Securities Division, or CME, and "Clearing Organizations" means both FICC and CME.~~

~~(n) "CME" has the meaning set forth in the preamble.~~

~~(o) "CME Eligible Products" means certain ~~futures contracts and options on futures~~ contracts cleared by CME ~~that are traded on the CME as identified on Appendix B~~ as listed on Exhibit A, and as modified from time to time upon mutual agreement of the Parties, as set forth in Section 6(a).~~

~~(p) _____ "Cross Margin Gain" means, with respect to a Clearing Organization, the amount of any net gain realized in the liquidation of the Used Positions without regard to Available Margin.~~

~~(q) _____ "Cross Margin Loss" means, with respect to a Clearing Organization, the amount of any net loss incurred in the liquidation of the Used Positions without regard to Available Margin.~~

~~(r) "CME Guaranty Fund" means the Base Guaranty Fund established pursuant to CME Rules.~~

~~(s) "CME's Debtor" has the meaning set forth in Section 8(a).~~

(t) “Collateral on Hand” means the Margin held by a Clearing Organization with respect to the Cross-Margining Account of a Defaulting Member immediately prior to the time at which the Default Event occurred.

(u) “Combined Portfolio” has the meaning set forth in Section 4(a).

(v) “Confidential Information” has the meaning set forth in Section 10(a).

(w) “Cross-Margining Account” means, with respect to a Clearing Member of FICC, the transactions, positions and margin maintained in the Account (as defined in the GSD Rules) at FICC that are identified in FICC’s books and records as being subject to this Agreement, and, with respect to a Clearing Member of CME, means a cross-margining account that is carried on the books of CME for such Clearing Member that is limited to the transactions, positions and Margin of the Proprietary Accounts of such Clearing Member that are subject to this Agreement.

(x) “Cross-Margin Positions” means, with respect to a Defaulting Member of FICC, the securities that have been identified by FICC at the time of default to be subject to the Cross-Margin Agreement.

(y) “Cross-Margin Requirement” means, with respect to a Cross-Margining Participant, the joint amount of Margin required by the Clearing Organizations with respect to the Cross-Margining Participant’s Combined Portfolio for its separate Cross-Margining Accounts at each Clearing Organization as provided in Section 4(a).

(z) “Cross-Margin VM Gain” or “Cross-Margin VM Loss” means, with respect to the Cross-Margining Account of a Defaulting Member, the amounts owed to or by the Defaulting Member, as applicable, by or to a Clearing Organization due to the mark-to-market movement arising from or related to the positions in the Defaulting Member’s Cross-Margining Account at CME or the Defaulting Member’s Cross-Margin Positions at FICC.

~~(aa) “Cross-Margining Affiliate,” means, as used in respect of a Cross Margining Participant of a particular Clearing Organization, an Affiliate of such Cross Margining Participant that is a Cross-Margining Participant of the other Clearing Organization.~~ “Margining Affiliate” has the meaning set forth in the recitals.

~~(bb) “Cross-Margining Arrangement” means the arrangement between FICC and the CME as set forth in this Agreement, together with similar arrangements between FICC and Other COs.~~ “Cross-Margining Participant” means a Joint Clearing Member that has become a participant in the Cross Margining Arrangement as between FICC and CME under the terms of this Agreement. The term “Cross-, or a Clearing Member that is part of a pair of affiliated Clearing Members each of which has become, a participant in the cross-margining arrangement between FICC and CME established pursuant to this Agreement. In the latter case, the term “Cross-Margining Participant” shall, where the context requires, refer collectively to the ~~Cross Margining Participant and its Cross Margining Affiliate, if any~~ pair of Cross-Margining Affiliates.

~~“Cross-Margining Reduction” means the maximum amount by which a Cross Margining Participant’s Margin requirement at one Clearing Organization may be reduced~~

~~(irrespective of the amount by which it is actually reduced) as calculated in accordance with Section 5 of this Agreement. The Cross Margining Reduction at each Clearing Organization is equal to the sum of the Margin Offsets at that Clearing Organization.~~

~~(cc) “Default Event” shall have~~has the meaning ~~given to that term~~set forth in Section 7(a) ~~of this Agreement.~~

~~(dd) “Defaulting Member” shall have~~has the meaning ~~given to that term~~set forth in Section 7(a) ~~of this Agreement.~~

~~(ee) “Disallowance Factor” means the specified percentage, as determined by the parties from time to time, that is applied to reduce the Applicable Residual Margin Amount Used to derive the Margin Offset.~~

~~(ff) “Effective Date” means the date established pursuant to~~has the meaning set forth in Section ~~1518(j) of this Agreement.~~

~~(gg) “Eligible Position” means, when used in respect of a particular FICC Eligible Product, a dollar amount of the particular FICC Eligible Product held by a Cross Margining Participant in a net long or short cash position at the Government Securities Division of FICC. “Eligible Position” means, when used in respect of a particular CBOT Eligible Product or CME Eligible Product, a net long or short position in futures or options on futures contracts at CME; provided, however, that the nominal principal amount of such CBOT Eligible Product or CME Eligible Product covered by futures contracts or options on futures contracts, shall be expressed as a dollar amount of U.S. Government securities using the conversion methodology set forth in Appendix C1 (for CME Eligible Products) or Appendix C2 (for CBOT Eligible Products). Positions” means positions in CME Eligible Products or positions in FICC Eligible Products in a Cross-Margining Account.~~

~~(hh) “Eligible ProductProducts” means, collectively, the products listed on Exhibit A for CME Eligible Products, CBOT Eligible Products and FICC Eligible Products identified on Appendix B and Exhibit B for FICC in each case attached hereto, and any other products mutually agreed to in the future between the partiesParties by amendment to Appendix B. Exhibit A and Exhibit B, respectively.~~

(ii) “Exchange Act” has the meaning set forth in the recitals.

(jj) “FICC” has the meaning set forth in the preamble.

(kk) “FICC Clearing Fund” means the clearing fund established pursuant to GSD Rules.

(ll) “FICC Eligible Products” means certain Government Securitiessecurities cleared by FICC as identified on Appendix Blisted on Exhibit B, and as modified from time to time upon mutual agreement of the Parties, as set forth in Section 6(a).

~~(mm) “Figure of Merit” means, with respect to an Eligible Position in a CME Eligible Product, a factor calculated by the CME pursuant to the formula set forth in Appendix C that will be used to determine the applicable CME Offset Class.~~

~~(nn) “Futures” means contracts for future delivery traded on or pursuant to the rules of a contract market, and cleared by a derivatives clearing organization subject to the provisions of the CEA. The term “Futures” shall be deemed to include options on futures contracts.~~

(oo) “FICC’s Debtor” has the meaning set forth in Section 9(a).

(pp) “GSD” means FICC’s Government Securities Division.

(qq) “GSD Account” means, with respect to a Clearing Member of FICC, the Accounts (as defined under the GSD Rules) of the Clearing Member at FICC which includes positions that are cross-margined pursuant to this Agreement and positions that are not cross-margined pursuant to this Agreement.

(rr) “Guarantor” has the meaning set forth in Section 7(i).

(ss) “Guaranty” means the obligation of FICC to CME, or of CME to FICC, as in effect at a particular time with respect to a particular Cross-Margining Participant as set forth in Sections 8A and 8B9 of this Agreement. The term “Guaranties” refers to both the Guaranty of CME to FICC and the Guaranty of FICC to CME, including, without limitation, the obligation to make the Preliminary Payment Obligation as well as the Adjustment Payment.

(tt) “Indebtedness to CME” has the meaning set forth in Section 8(a).

(uu) “Indebtedness to FICC” has the meaning set forth in Section 9(a)

(vv) “Indemnified Party” has the meaning set forth in Section 12(a)

(ww) “Indemnitor” has the meaning set forth in Section 12(a).

(xx) “Joint Clearing Member” has the meaning set forth in the recitals.

(yy) “Liquidation Cost” means, with respect to a Cross-Margining Account of a Defaulting Member at a Clearing Organization, the amount of any net gain or net loss, realized in the liquidation, transfer or management of Eligible Positions held by the Clearing Organization in the Cross-Margining Account of the Defaulting Member, including, without limitation, (i) any Variation Margin owed to the Defaulting Member by the Clearing Organization and unpaid (which shall constitute gains); (ii) any Variation Margin owed by the Defaulting Member to the Clearing Organization and unpaid (which shall constitute losses); and (iii) any reasonable costs, fees and expenses incurred by the Clearing Organization in connection therewith.

(tt) “Margin” means, with respect to a Cross-Margining Participant, any type of performance bond or initial margin, including deposits or pledges of CME original margin, FICC clearing fund, CME performance bond, or Actual Deposits (as defined under the GSD Rules) and option premiums held in or for the Cross-Margining Account of such Cross-Margining Participant at a Clearing Organization, and other margin collateral, whether in the form of cash, securities, letters of credit or other assets of a specific such Cross-Margining Participant, required or held by or for the account of either a Clearing Organization to secure the obligations of such Cross-Margining Participant with respect to the Cross-Margining Account carried at the Clearing

Organization, to a Clearing Organization under this Agreement, the Clearing Member Agreement and the Rules, and all proceeds of the foregoing.

~~“Margin Offset” means the difference between (i) the Applicable Residual Margin Amount Used and (ii) the product of (A) the Applicable Residual Margin Amount Used and (B) the greater of (1) the applicable Disallowance Factor or (2) the Minimum Margin Factor, as the case may be.~~

~~“Margin Rate” means, in the case of FICC, the percentage, defined for each offset class as two (2) times the standard deviation of returns from a historical index for that offset class, that would be applied to the Residual Position in each Offset Class in the absence of Cross-Margining, and, in the case of CME, the effective percentage which is derived by dividing the CME’s long (short) Residual Margin Amount by the CME’s long (short) Residual Position in each respective Offset Class.~~

~~“Mark to Market Payment” as used in respect of an Eligible Position means a “variation” payment or other similar payment made by a Clearing Member to a Clearing Organization or vice versa representing the difference between (i) either the current market price of such Eligible Position or, if the Eligible Position has been closed out, the price at which it was closed out, and (ii) either the price of the Eligible Position upon which the most recent Market to Market Payment was based or, if there was none, the price at which the Eligible Position was entered into.~~

~~“Maximization Payment” shall mean the additional payment(s), if any, that are required to be made by FICC to CME, or vice versa, pursuant to Section 8C of this Agreement after payments are made under the Guaranty.~~

~~“Maximization Payment Guaranty” means the obligation of FICC to CME, or of CME to FICC, to make a Maximization Payment with respect to a particular Cross Margining Participant.~~

~~“Maximization Reimbursement Obligation” means the obligation, as set forth in Section 8C(d), of a Cross Margining Participant to a Clearing Organization that is obligated to make a Maximization Payment on behalf of such Cross Margining Participant or its Cross Margining Affiliate pursuant to a Maximization Payment Guaranty.~~

~~“Minimum Margin Factor” means the specified percentage, as agreed to between the parties from time to time, that is applied to reduce the Applicable Residual Margin Amount Used.~~

~~“Offset Class” means a specific group of Eligible Products in a Clearing Organization. CME Eligible Products shall be organized into rolling year Offset Classes 1 through 20, as described in Appendix B. CBOT Eligible Products shall be organized into Offset Classes, as described in Appendix B. FICC Eligible Products shall be organized into Offset Classes A through G, as described in Appendix B.~~

(uu) “Margin Reduction” means, the amount by which a Cross-Margining Participant’s Margin requirement for its Cross-Margining Account at a Clearing Organization is reduced by such Clearing Organization pursuant to Section 4(a) of this Agreement.

(vv) “Net Gain” or “Net Loss” means, with respect to the Cross-Margining Account of a Defaulting Member held at a Clearing Organization, the sum of the (i) Collateral on Hand; and (ii) Liquidation Cost. If such amount is a positive number, a Clearing Organization shall be deemed to have a “Net Gain” with respect to the relevant account. If such amount is a negative number, a Clearing Organization shall be deemed to have a “Net Loss” with respect to the relevant account. If the Liquidation Cost amounted to a gain, it shall be a positive number for this calculation. If the Liquidation Cost amounted to a loss, it will be a negative amount for this calculation.

(ww) “Other VM Gain” or “Other VM Loss” means: (x) with respect to a Defaulting Member of FICC, the amounts owed to or by the Defaulting Member, as applicable, by or to FICC due to the Funds-Only Settlement payments (as defined in the GSD Rules) arising from or related to the mark-to-market movement of the portion of the Defaulting Member’s GSD Accounts that does not include the positions in the Cross-Margining Account at FICC; and (y) with respect to a Defaulting Member of CME, the amounts owed to or by the Defaulting Member, as applicable, by or to CME arising from or related to the mark-to-market movement of the positions (excluding positions in IRS Contracts (as defined under CME’s Rules)) or positions that are commingled with positions in IRS Contracts pursuant to CME Rule 8G831 in the Defaulting Member’s accounts (but excluding its Cross-Margining Account) at CME.

(xx) “Original Agreement” has the meaning set forth in the recitals.

(yy) “Party” and “Parties” have the meaning set forth in the preamble.

(zz) ~~“Preliminary Payment Obligation” means the amount that is, if any, determined by applying the loss sharing principles set forth in accordance with Section 7(d) of this Agreement to the results of the liquidation of the Used Positions~~⁷, payable by one Clearing Organization to the other Clearing Organization.

~~“Pro Rata Share” means a fraction calculated as described in Section 5(e) of this Agreement.~~

(aaa) “Proprietary Account” has the meaning given that term in CFTC Regulation 1.3(y). Unless otherwise expressly provided, the term “Proprietary Account” includes the Proprietary Cross-Margining Account of a Cross-Margining Participant of CME.

(bbb) ~~“Reimbursement Obligation” means the obligation, as set forth in Section 7(h) of this Agreement, of a Cross Margining Participant to a Clearing Organization that is obligated to make a payment on behalf of such Cross-Margining Participant or its Cross-Margining Affiliate pursuant to a Guaranty.~~

~~“Residual Margin Amount” means the long Margin amount or the short Margin amount, as the case may be, in each Offset Class that is available for cross margining after all internal offsets are conducted within and between offset classes at a particular Clearing Organization, as contemplated in Section 5 of this Agreement. With respect to the CME, Residual~~

~~Margin Amount only includes the “risk” portion of margin held by the CME. The “risk” portion of margin held with respect to a futures contract is the entire margin requirement, whereas the “risk” portion of margin held with respect to an option on a future excludes the option value.~~

~~“Residual Position” means the amount of an Eligible Position in each Offset Class that remains after internal offsets.~~ has the meaning set forth in Section 7(i).

~~(ccc) “Rules” means the rules, policies and procedures of the, as applicable, the Rulebook of FICC’s Government Securities Division of FICC, and interpretations thereof, as they may be in effect from time to time, and for CME, the by laws, rules and policies and procedures of CME, and interpretations thereof (“GSD Rules”) or the Rules of CME (“CME Rules”), as they may be in effect from time to time.~~

~~“Used Position” means that portion of a Residual Position that is associated with the Applicable Residual Margin Amount Used in determining the Margin Offset with respect to each pair of Offset Classes.~~

(ddd) “SEC” has the meaning set forth in the recitals.

(eee) “Share of the Cross-Margining Requirement” means, in respect of a Clearing Organization, the ratio calculated by dividing (i) the amount of Margin required for the Cross-Margining Account at the Clearing Organization after taking into account the Margin Reduction set forth in Section 4(a), by (ii) the Cross-Margining Requirement.

(fff) “Stand-Alone Margin Requirement” means, as to each Clearing Organization, the Margin requirement that such Clearing Organization would calculate with respect to a Cross-Margining Account it carries as if calculated by such Clearing Organization without regard to this Agreement or another cross-margining agreement.

(ggg) “Variation Margin” means, with respect to the Cross-Margining Account of a Defaulting Member, the amounts owed to or by the Defaulting Member, as applicable, by or to a Clearing Organization due to the mark-to-market movement arising from or related to the positions in the Defaulting Member’s Cross-Margining Account at CME or the Defaulting Member’s Cross-Margin Positions at FICC from the time immediately prior to a Default Event until the time the liquidation of a Defaulting Member is complete for both CME and FICC.

2. Participation.

(a) (a) FICC and CME shall each determine which of its Clearing Members is eligible to become a Cross-Margining Participant; provided that in order to become a Cross-Margining Participant, a Clearing Member of either such Clearing Organization must be, a Joint Clearing Member or have be an Affiliate that is, of a Clearing Member of the other Clearing Organization that such other Clearing Organization has both Clearing Organizations have determined to be eligible to be a Cross-Margining Participant. A common Clearing Member of FICC and CME shall become a Cross-Margining Participant upon acceptance by FICC and CME of an agreement in the form of Appendix D hereto. A Clearing Member of FICC or CME and its Affiliate that is a Clearing Member of the other Clearing Organization shall become Cross Margining Participants and Cross Margining Affiliates of one another upon acceptance by FICC and CME of an

~~agreement in the form of Appendix E hereto. Either FICC or CME may require a Cross-Margining Participant to provide an opinion of counsel as to the enforceability of the provisions of this Agreement and the Rules of the applicable Clearing Organization with respect to such Cross-Margining Participant and its Cross-Margining Affiliate, if any. FICC shall notify CME, and CME shall notify FICC, upon acceptance of a Clearing Member as a Cross-Margining Participant, and the Clearing Organizations shall mutually agree on a start date for the Cross-Margining Participant.~~

(b) A Joint Clearing Member shall become a Cross-Margining Participant upon the acceptance by FICC and CME of a Clearing Member Cross-Margining Agreement (Joint Clearing Member) in the form of Appendix A hereto.

~~(c) (b) In addition to the rights of each Clearing Organization discussed in Section 7 of this Agreement, either FICC or CME may terminate the participation of a particular Cross-Margining Participant upon two Business Days' prior written notice to the other Clearing Organization; provided, however, that no such termination pursuant to this subsection (b) shall be effective with respect to any Reimbursement Obligation or Guaranty, or any Maximization Reimbursement Obligation or Maximization Payment Guaranty, with respect to that Cross-Margining Participant or its Cross-Margining Affiliate that is incurred prior to the effectiveness of any such termination.~~
A Clearing Member of FICC or CME and its Affiliate that is a Clearing Member at the other Clearing Organization shall become Cross-Margining Participants and Cross-Margining Affiliates of one another upon the acceptance by FICC and CME of a Clearing Member Cross-Margining Agreement (Affiliated Clearing Members) in the form of Appendix B hereto.

~~3. — Positions Subject to Cross-Margining. All positions in FICC Eligible Products maintained by a Cross-Margining Participant in its account at FICC and all positions in CBOT Eligible Products and CME Eligible Products maintained by a Cross-Margining Participant in its proprietary account(s) at CME shall be deemed to be Eligible Positions for purposes of this Agreement. In the event that all necessary regulatory approvals are obtained, the Clearing Organizations shall promptly take steps (including the amendment of the agreements between the Clearing Organizations and their Cross-Margining Participants) to permit positions in CME Eligible Products or CBOT Eligible Products maintained by a Cross-Margining Participant in customer accounts at CME to be deemed to be Eligible Positions for purposes of this Agreement.~~

~~4. — Offset Classes, Disallowance Factors, Minimum Margin Factor, and Figure of Merit. For purposes of calculating the Cross-Margining Reduction for Eligible Positions at FICC and CME in accordance with Section 5 of this Agreement, FICC and CME shall agree upon the categorization of Eligible Products into Offset Classes and shall agree upon the Disallowance Factors and the Minimum Margin Factor to be applied to the Applicable Residual Margin Amount Used to derive the Margin Offset between each possible pair of Offset Classes. Except to the extent that the Clearing Organizations mutually agree otherwise in writing, the Offset Classes shall be as set forth on Appendix B. An example of a schedule containing Disallowance Factors is set forth in Appendix B. The Clearing Organizations shall mutually agree in writing from time to time on the Disallowance Factors and the Minimum Margin Factor that shall be used in this Cross-Margining Arrangement. The methodology for calculating the Figure of Merit, which will be used to determine the applicable CME Offset Class with respect to CME Eligible Products, is set forth on Appendix C1. The methodology for the conversion of CBOT futures contracts to Treasury equivalents is set forth on Appendix C2. These agreed upon factors and the Figure of Merit~~

~~methodology do not limit FICC or CME's rights under Section 5(d) of this Agreement to determine their own actual Margin requirements with respect to a Cross-Margining Participant's Eligible Positions.~~

(d) Either FICC or CME may require a Cross-Margining Participant to provide an opinion of counsel as to the enforceability of the provisions of this Agreement and the Rules of the applicable Clearing Organization with respect to such Cross-Margining Participant and, if applicable, its Cross-Margining Affiliate.

(e) In addition to the rights of each Clearing Organization under Section 7 of the Agreement, either FICC or CME may terminate the participation of a particular Cross-Margining Participant (including, if applicable, a Cross-Margining Affiliate at such Clearing Organization) upon two Business Days' prior written notice to the other Clearing Organization provided, however, that no such termination shall be effective with respect to any Reimbursement Obligation or Guaranty with respect to that Cross-Margining Participant or its Cross-Margining Affiliate that is incurred prior to the effectiveness of any such termination.

3. Establishment of Cross-Margining Accounts. Each Cross-Margining Account, and all Eligible Positions and Margin contained therein or deposited in respect thereof, shall be subject to this Agreement, the Clearing Member Agreement and the Rules. If CME determines at any time that any Eligible Position held in a Cross-Margining Participant's Cross-Margining Account at CME are non-risk reducing, CME may either restrict the addition of Eligible Positions to the Cross-Margining Account at CME or require the Cross-Margining Participant to move or liquidate such Eligible Positions at CME.

4. ~~5. Calculation of the Cross-Margining Reduction. [amended June 2014]~~ Margin Requirements.

(a) ~~(a) On each Business Day on and after the Effective Date, and with respect to each Cross-Margining Participant, each of FICC and CME will calculate a long (short) Residual Position and the associated Residual Margin Amount in each Offset Class. The Residual Positions shall be derived after first internally offsetting any Eligible Positions. CME's Residual Margin Amounts shall be calculated in accordance with the CME's SPAN® margining system. FICC's Residual Margin Amounts shall be calculated as specified in this Agreement and shall be adjusted, if necessary, to correct for differences between the methodology of calculating the Residual Margin Amount as described in this Agreement and FICC's value at risk methodology. On each Business Day, the Cross-Margin Requirement for the Combined Portfolio, and the corresponding reduction in the Margin required (if any) for each Cross-Margining Account shall be determined as follows.~~ Each Clearing Organization will calculate the difference between (x) the sum of the Stand-Alone Margin Requirements for the CME Eligible Products and FICC Eligible Products in the relevant Cross-Margining Accounts and (y) the Margin it would require if the combined portfolio of the CME Eligible Products and FICC Eligible Products were held in a single account (the "Combined Portfolio") and determine the percentage of margin savings that would be derived for such accounts by margining the CME Eligible Products and FICC Eligible Products as a Combined Portfolio. The Clearing Organizations will then compare their respective margin savings percentages, and, if the lesser of such margin savings percentage exceeds the threshold agreed by the Clearing Organizations from time to time, each Clearing Organization will then reduce the Margin required to be deposited by a Clearing Member at such Clearing Organization

with respect to the CME Eligible Products or the FICC Eligible Products, as applicable, by the lower of such margin savings percentages. If the respective margin savings percentages are less than the threshold agreed by the Clearing Organizations from time to time, no Margin Reduction will be applied. The Cross-Margin Requirement with respect to a Cross-Margining Participant may not be changed without the consent of both Clearing Organizations.

~~———— CME shall then inform FICC of (1) the long or short Residual Position computed in each Offset Class and (2) the long (short) Residual Margin Amount associated with such Residual Position. FICC shall calculate the CME effective Margin Rate for the particular Offset Class which shall be determined by dividing (2) by (1) above.~~

~~———— Based on the amounts computed in the previous two paragraphs of this subsection (a), FICC shall determine the Applicable Residual Margin Amounts by multiplying:~~

- ~~□ The long or the short Residual Position in each Offset Class, and~~
- ~~□ The lesser of the FICC Margin Rate for the applicable Offset Class or the CME Margin Rate for the applicable Offset Class. For purposes of this comparison of Margin Rates as between an FICC Offset Class and a CME Offset Class, if the applicable Offset Class is a FICC Offset Class, the rates that shall be compared are: (i) FICC's Margin Rate applicable to that Offset Class and (ii) the CME Margin Rate applicable to the particular FICC Offset Class as determined by Appendix B (which, in effect, is equal to the FICC Margin Rate for the particular Offset Class). If the applicable Offset Class is a CME Offset Class, the rates that shall be compared are: (i) CME's effective Margin Rate and (ii) the FICC Margin Rate applicable to the particular Offset Class as determined by Appendix B.~~

~~———— FICC shall inform CME, and CME shall inform FICC, of the exact methodology used to calculate its Residual Positions. FICC shall inform CME, and CME shall inform FICC, of any non-emergency change in the methodology used to make such calculations no less than 30 calendar days prior to implementation of such change, with the understanding that this obligation to provide advance notice of changes in margin methodology used in calculating Residual Positions shall not limit either Clearing Organization's right under Section 5(d) to determine its actual Margin requirements with respect to a Cross-Margining Participant's Eligible Positions. CME shall inform FICC in advance (and to the extent practicable, not less than 30 calendar days in advance) of any non-emergency change to the contract specifications of CBOT Eligible Products and CME Eligible Products. FICC shall inform CME in advance (and to the extent practicable, not less than 30 calendar days in advance) of any non-emergency changes to the remaining maturity buckets in the list of FICC Eligible Products. In addition, both FICC and CME shall promptly inform each other of changes to either their Margin Rates or Margin amounts required per Eligible Position.~~

~~———— Notwithstanding any other provision of this Agreement, each of FICC and CME may unilaterally determine, on any Business Day, to reduce (including to reduce to zero) the Residual Positions and the corresponding Residual Margin Amounts that it makes available for cross-margining with respect to an individual Cross-Margining Participant or with respect to all Cross-Margining Participants. The effect of such action on the Guaranties shall be governed by Sections 8A(f) and 8B(f).~~

~~(b) If a Cross-Margining Participant has only long Applicable Residual Margin Amounts at FICC and CME or only short Applicable Residual Margin Amounts at FICC and CME, then there will be no Applicable Residual Margin Amounts Used.~~

~~—————To the extent that the Cross-Margining Participant has long Applicable Residual Margin Amounts at FICC in one or more Offset Classes and short Applicable Residual Margin Amounts at CME in one or more Offset Classes, or vice versa, then the Applicable Residual Margin Amount Used shall be determined as follows:~~

~~—————Offset will first occur between the pair of Offset Classes with the lowest Disallowance Factor. Subsequent unused offsets, if any, will generally occur between pairs of Offset Classes in order of increasing Disallowance Factors. The Applicable Residual Margin Amount Used at each Clearing Organization in the cross-margining offset between a pair of Offset Classes shall be the smaller of the long Applicable Residual Margin Amount or the short Applicable Residual Margin Amount in the pair of Offset Classes. Such Applicable Residual Margin Amounts Used shall be reduced by the product of the Applicable Residual Margin Amount Used and the greater of the applicable Disallowance Factor or the Minimum Margin Factor to derive the Margin Offset with respect to each pair of Offset Classes.~~

~~—————The Cross-Margining Reduction for a Cross-Margining Participant at each Clearing Organization shall be equal to the sum of the Margin Offsets and shall be the same amount at each Clearing Organization.~~

(b) Neither CME nor FICC shall permit positions in CME Eligible Products or in FICC Eligible Products, respectively, that are carried in a Cross-Margining Account A pursuant to this Agreement to be subject to any other cross-margin arrangement.

(c) The following shall occur in the case of Either Clearing Organization may in its sole discretion and at any time require a Cross-Margining Participant of CME that is also a to deposit an amount of Margin which exceeds such Cross-Margining Participant's Stand-Alone Margin Requirement at such Clearing Organization.

~~Cross-Margining Participant of one or more Other COs:~~

~~—————In order to determine the Applicable Residual Margin Amount Used, the Applicable Residual Margin Amounts of the Cross-Margining Participant in Offset Classes at FICC shall be allocated in order of increasing Disallowance Factors, subject to Section 5(e) of this Agreement. In the event that more than one Other CO, including for this purpose CME, has Applicable Residual Margin Amounts with equally beneficial Disallowance Factors, FICC shall generally allocate its Applicable Residual Margin Amounts on a pro-rated basis based on the Applicable Residual Margin Amounts computed by FICC for each such clearing organization in relation to the aggregate Applicable Residual Margin Amounts computed by FICC for all clearing organizations for that particular Disallowance Factor. The proportion of the Cross-Margining Participant's Applicable Residual Margin Amounts at FICC that is offset against the Cross-Margining Participant's Applicable Residual Margin Amounts at CME shall be referred to hereafter as CME's "Pro Rata Share" for such Cross-Margining Participant per Offset Class. The Pro Rata Share for each Other CO shall be similarly determined. Such Applicable Residual Margin~~

~~Amounts Used shall be reduced by the product of the Applicable Residual Margin Amount Used and the greater of the applicable Disallowance Factor or the Minimum Margin Factor to derive the Margin Offset with respect to each pair of Offset Classes. An illustrative example of FICC's allocation of its Applicable Residual Margin Amounts is shown in Appendix F hereto. The example is intended as an aid to interpretation of the verbal description of the allocation as set forth in this Agreement. In the event of an inconsistency between the provisions of the main part of this Agreement and Appendix F, the provisions of the main part of this Agreement shall govern.~~

~~Notwithstanding any other provision of this Agreement, FICC reserves the right to disregard the foregoing prioritization based on increasing Disallowance Factors and/or the pro rata allocation among CME and Other COs and to increase or decrease, including to decrease to zero, the Applicable Residual Margin Amounts that it allocates to CME with respect to one or more Cross Margining Participants if, in FICC's sole discretion, such increase or decrease is appropriate in view of unusual circumstances affecting CME, an Other CO, the Cross Margining Participant or its Cross Margining Affiliate, the Eligible Positions at CME or an Other CO, or otherwise. In such an event, the CME's Pro Rata Share shall be the proportion of the Cross Margining Participant's Applicable Residual Margin Amounts at FICC that is actually offset against the Cross Margining Participant's Applicable Residual Margin Amounts at CME. The effect of such action on the Guaranties shall be governed by Sections 8A(f) and 8B(f) of this Agreement.~~

~~(d) Although it is contemplated that FICC and CME may reduce a Cross Margining Participant's Margin requirement in respect of Eligible Positions by the amount of the Cross Margining Reduction in reliance upon the Guaranty of the other as set forth in Sections 8A and 8B below, nothing in this Agreement will be construed as requiring any such reduction. Notwithstanding any other provision of this Agreement, each Clearing Organization may unilaterally determine its actual Margin requirements in respect of a Cross Margining Participant's Eligible Positions taking into consideration market conditions, the financial condition of a Cross Margining Participant (or its Cross Margining Affiliate), the size of positions carried by a Cross Margining Participant (or its Cross Margining Affiliate) or any other factor or circumstance deemed by it to be relevant, but in no event shall a Clearing Organization reduce the actual Margin requirement of a Cross Margining Participant by more than the Cross Margining Reduction. Without limiting the generality of the foregoing, FICC shall have the right to reduce the Cross Margining Reduction of a FICC Cross Margining Participant to compensate for risks associated with the time value of any options on futures that may be included within the Used Positions. In addition to any notices required under Sections 6(a) and 7 of this Agreement, each Clearing Organization shall promptly notify the other in the event that it chooses not to reduce a Cross Margining Participant's Margin requirement by the amount of the Cross Margining Reduction. Such action by one or both of the Clearing Organizations shall not affect the Guaranty as in effect at that time with respect to the particular Cross Margining Participant as set forth in Sections 8A and 8B.~~

~~(d) CME and FICC shall each determine to its own satisfaction that the Margin it requires in respect of a Cross Margining Participant's Residual Positions, together with the Guaranty of the other Clearing Organization, is adequate to protect itself. Absent gross negligence or willful misconduct, neither Clearing Organization shall have liability to any the other Clearing Organization or to any other person based solely upon the fact that any information given or~~

calculated by such Clearing Organization pursuant to this Section ~~5 of the Agreement~~⁴ was inaccurate or inadequate. ~~As used in the preceding sentence, the term “Clearing Organization” means FICC, CME, and Other COs.~~ The liability of CME and FICC to any Cross-Margining Participant, Cross-Margining Affiliate or third party shall be as further provided in ~~the~~ CME Rules and ~~the FICCGSD~~ Rules.

(e) ~~(e) Although it is contemplated that the Cross-Margin Requirement may be less than the sum of the Stand-Alone Margin Requirements, nothing in this Agreement shall be construed as requiring such result.~~ Any calculation of a Cross-Margining Reduction, including without limitation any order of offset between possible pairs of Offset Classes (including offsets between FICC and CME Offset Classes and between FICC and Other CO Offset Classes) provided for in Section 5 of this Agreement Margin Requirement shall not result in any guarantee to any Cross-Margining Participant that such calculation will yield ~~any, or the highest~~lowest possible; Cross-Margining Reduction Margin Requirement.

~~(f) Illustrative examples of the calculation of Cross Margining Reductions are set forth on Appendix G hereto. The examples are intended as an aid to interpretation of the verbal description of those calculations as set forth in this Agreement. In the event of an inconsistency between the provisions of the main part of this Agreement and Appendix G, the provisions of the main part of this Agreement shall govern.~~

5. [Reserved]

6. Daily Procedures for Exchange of Portfolio Cross-Margining Data.

(a) ~~(a) All daily settlements of funds and securities, including the collection of Margin payments and the release or payment of excess Margin with respect to Eligible Positions and transactions relating to Eligible Positions shall be conducted on each Business Day (and shall be conducted by the Clearing Organization that is open for business on each day that is a business day for it and not for the other Clearing Organization) in accordance with the ordinary settlement procedures of each Clearing Organization. FICC and CME shall establish procedures~~ a separate service level agreement (“SLA”), including time frames, to exchange on each Business Day such information as may reasonably be required in order to value the positions in the Cross-Margining Account and to calculate the Cross-Margining Reduction-Margin Requirement for each Cross-Margining Participant. The initial procedures and timeframes for such exchange of information are set forth on Appendix H hereto SLA will also include: (i) operational processes consistent with the default management provisions set forth in Section 7 of this Agreement; and (ii) the process and criteria under which FICC or CME may make a request to the other Clearing Organization to modify its list of CME Eligible Products or FICC Eligible Products, as applicable. Such process will include that only products that do not require a change to FICC or CME’s margin model are permitted to be subject to this process, and any modification requires the mutual written consent of both Parties. Each Clearing Organization shall furnish ~~to the other~~ such additional information as the other Clearing Organization may reasonably request in relation to ~~the Cross-Margining~~ this Agreement.

(b) FICC and CME agree that each will notify the other Clearing Organization promptly if an event occurs that reflects, in the sole discretion of the notifying Clearing

Organization, a material problem with respect to a Cross-Margining Participant. Examples of such an event shall include, but shall not be limited to, the events requiring notice pursuant to Section ~~14(a)~~16 of this Agreement.

~~(b) On any day that the CME is open for business and FICC is not, or vice versa, the Guaranties as determined by Sections 8A(f) and 8B(f) shall be in effect until new Guaranties are established pursuant to Sections 8A(f) and 8B(f), respectively the next Business Day when both Clearing Organizations conduct a settlement cycle. Days that are holidays for either FICC or CME, or both, and therefore not Business Days under this Agreement, are as published by each Clearing Organization for each particular calendar year.~~

7. Suspension and Liquidation of a Cross-Margining Participant.

~~{amended June 2014}~~

~~(a) Either FICC or CME may at any time exercise any rights under its Rules to terminate, suspend or otherwise cease to act for or limit the activities of a Cross-Margining Participant (a "Defaulting Member") and, subject to the provisions of the next sentence, to liquidate the positions and Margin of such Cross-Margining Participant~~"Defaulting Member"). When the Clearing Member against which FICC or CME exercises such rights is part of a pair of Cross-Margining Affiliates, the term "Defaulting Member" covers the Cross Margining Affiliates together or individually as the context requires. Upon such event (the "Default Event"), the ~~terminating or suspending~~ Clearing Organization that has taken the foregoing actions (the "Liquidating CO") shall immediately by telephone or in person, and thereafter in writing, notify the other Clearing Organization of ~~such event and both such~~the actions it has taken. The other Clearing Organization shall then immediately notify the Liquidating CO whether it will take similar action under its Rules. If the other Clearing Organization notifies the Liquidating CO that it will take such similar action, then both Clearing Organizations shall promptly ~~and prudently~~ liquidate (through market transactions or other commercially reasonable means) all Used Positions of such Defaulting Member (or its Cross-Margining Affiliate, as the case may be) at such Clearing Organizations ~~except to the extent that FICC and CME mutually agree to delay liquidation of all or any portion of the Used Positions or except to the extent that either determines unilaterally not to liquidate all or any portion of the Used Positions as provided below. Except to the extent that one Clearing Organization has determined unilaterally not to liquidate, FICC and CME shall use reasonable efforts to coordinate the liquidation of the Used Positions so that offsetting or hedged positions can be closed out simultaneously. Any funds received by a Clearing Organization as a result of the liquidation of the Used Positions of a Cross-Margining Participant pursuant to this Section 7 shall be applied in accordance with the following paragraphs of this Section~~take the steps set forth in subparagraph (b) below. If the other Clearing Organization notifies the Liquidating CO that it will not take such similar action, then the other Clearing Organization (the "Non-Liquidating CO") shall immediately require the Defaulting Member to pay the Non-Liquidating CO in immediately available funds the sum of (x) its Margin Reduction at the Liquidating CO, and (y) its Margin Reduction at the Non-Liquidating CO, within one hour of demand. If the Non-Liquidating CO receives this payment in full from the Defaulting Member or otherwise, within such timeframe, it shall, within one hour of such receipt, pay the Liquidating CO in immediately available funds the Defaulting Member's Margin Reduction at the Liquidating CO. After the Non-Liquidating CO makes such payment in full, then, notwithstanding anything herein to the contrary, it shall have no further obligations to the Liquidating CO under this Agreement with respect to the Default Event. If the Non-Liquidating CO does not receive this payment in full from the

Defaulting Member or otherwise, within one hour of such receipt or other agreed upon timeframe, then it will cease to act for the Defaulting Member, and it, along with the Liquidating CO shall promptly take the steps set forth in subparagraph (b) below.

(b) The Clearing Organizations shall take the following steps:

- (i) First, the Clearing Organizations shall attempt in good faith to jointly transfer, liquidate or close out the Eligible Positions in the Cross-Margining Accounts carried for the Defaulting Member (the “Relevant Positions”). To the extent the Default Event is resolved under this Section 7(b)(i) and not under Section 7(b)(iii), the loss sharing provisions set forth in Section 7(c) shall apply and the loss sharing provisions set forth in Sections 7(d), 7(e) and 7(f) shall not apply.
- (ii) Second, in the event a Clearing Organization determines that jointly transferring, liquidating or closing out the Relevant Positions is not feasible or advisable, any Clearing Organization (“X”) may, upon written notice to the other Clearing Organization (“Y”), offer to buy-out the Relevant Positions at the last settlement price for such positions immediately prior to the time such offer is made and any remaining collateral relating thereto from Y (which Y may accept or reject in its sole discretion). If such a buy-out occurs, then, notwithstanding anything herein to the contrary, Y shall have no further obligations to X under this Agreement with respect to the Default Event. For the avoidance of doubt, the loss sharing provisions set forth in Sections 7(c), 7(d), 7(e) and 7(f) shall not apply if the Default Event is resolved under this Section 7(b)(ii).
- (iii) If a Clearing Organization determines that it is not advisable or feasible to resolve the Default Event pursuant to Paragraphs (b)(i) or (b)(ii) above, it shall so notify the other Clearing Organization. In such event, each Clearing Organization shall promptly transfer, liquidate or otherwise close out the Eligible Positions in the Cross-Margining Account carried for the Defaulting Member at that Clearing Organization. The loss sharing provisions set forth in Sections 7(d), 7(e) and 7(f) shall apply to the extent the Default Event is resolved under this Section 7(b)(iii).

(c) To the extent a joint liquidation occurs as described in Section 7(b)(i), the following provisions shall apply:

- (i) Each Clearing Organization shall calculate its individual Net Gain or individual Net Loss, if any, taking into account solely its individual Collateral on Hand and its individual Liquidation Cost.
- (ii) Using the individual Net Gains or individual Net Losses calculated in 7(c)(i) above, the Clearing Organizations shall jointly calculate the sum of the combined Net Gains and Net Losses, if any, of the Clearing Organizations with respect to the Cross-Margining Accounts of the Defaulting Member.

Any resulting combined Net Gain or combined Net Loss shall be allocated pro rata between the Clearing Organizations based on each Clearing Organization's Share of the Cross-Margining Requirement (its "Allocated Net Gain" or "Allocated Net Loss", as applicable).

- (iii) If a Clearing Organization has an individual Net Gain that is less than its Allocated Net Gain, an individual Net Loss that is greater than its Allocated Net Loss or an individual Net Loss when the joint liquidation resulted in a combined Net Gain (solely for purposes of this Paragraph (c)(iii), the "worse-off party") then the other Clearing Organization shall be required to pay to the worse-off party an amount equal to the difference between the worse-off party's individual Net Gain or Net Loss and its Allocated Net Gain and Allocated Net Loss.
- (iv) For the purposes of determining any Net Gain or Net Loss under Section 7(c)(i)-(iii), neither Clearing Organization shall include any amount paid or received under Section 7(c)(v) and (vi) in the calculation of Net Gain and Net Loss.
- (v) The following shall apply:

 - (1) If, on any Business Day during the liquidation of a Defaulting Member, a Clearing Organization ("VM Payor") has a Cross-Margin VM Gain and an Other VM Gain with respect to a Defaulting Member, and the other Clearing Organization ("VM Receiver") has a Cross-Margin VM Loss with respect to a Defaulting Member, the VM Payor shall make a payment to the VM Receiver in the amount of the VM Receiver's Cross-Margin VM Loss, but not to exceed the VM Payor's Cross-Margin VM Gain; provided that the VM Payor shall not be required to make such payment to the extent it reasonably determines that the liquidation of the Defaulting Member will result in an individual Net Loss to it or that the VM Receiver will be limited by statute, court order or other applicable law from making the payment described in Section 7(c)(vi) below.
 - (2) If, on any Business Day during the liquidation of a Defaulting Member, a Clearing Organization ("VM Payor") has a Cross-Margin VM Gain and an Other VM Loss and the sum of these amounts (hereinafter "Aggregate VM Gain") is positive, and the other Clearing Organization ("VM Receiver") has a Cross-Margin VM Loss with respect to a Defaulting Member, the VM Payor shall make a payment to the VM Receiver in the amount of the VM Receiver's Cross-Margin VM Loss, but not to exceed the VM Payor's Aggregate VM Gain unless the Parties otherwise agree that the VM Payor shall pay a higher amount; provided that the VM Payor shall not be required to make such payment to the extent it

reasonably determines that the liquidation of the Defaulting Member will result in an individual Net Loss to it or that the VM Receiver will be limited by statute, court order or other applicable law from making the payment described in Section 7(c)(vi) below.

(3) If, on any Business Day during the liquidation of a Defaulting Member, a Clearing Organization (“VM Payor”) has a Cross-Margin VM Gain and an Other VM Loss with respect to a Defaulting Member and the sum of these two amounts is negative, and the other Clearing Organization (“VM Receiver”) has a Cross-Margin VM Loss with respect to the Defaulting Member, the VM Payor shall not be required to make a payment to the VM Receiver unless otherwise agreed to by the Parties.

(vi) The deadline for any payments pursuant to the foregoing paragraphs shall be jointly determined by the Clearing Organizations. After the completion of the liquidation of a Defaulting Member, any VM Receiver shall be obligated to pay to the VM Payor any amounts received by the VM Receiver pursuant to Section 7(c)(v) in connection with the liquidation, *provided, however,* that notwithstanding anything to the contrary in this Agreement, a VM Receiver shall only be required to pay such amount to the VM Payor if it is not prohibited by statute, court order or other applicable law from making such payment. The obligation of the VM Receiver to pay any such amounts shall be netted and offset against any payment obligation of the VM Payor pursuant to Section 7

(d) If, with respect to the Cross-Margining Account of the Defaulting Member, both Clearing Organizations have a Net Gain or a Net Loss, no payment will be due to either Clearing Organization in respect of the Guaranties between FICC and CME referred to in Sections 8 and 9 below.

(e) If, with respect to the Cross-Margining Account of the Defaulting Member, either Clearing Organization has a Net Loss (solely for purposes of this Paragraph (e), the “worse-off party”) and the other has a Net Gain (solely for purposes of this Paragraph (e), the “better-off party”) that is equal to or exceeds the absolute value of the worse-off party’s Net Loss, then the better-off party shall be required to pay to the worse-off party an amount equal to the absolute value of such Net Loss; *provided, however,* that notwithstanding anything to the contrary in this Agreement, the better-off party shall only be required to pay the amount of such Net Loss to the worse-off party if it is not prohibited by statute, court order or other applicable law from making such payment.

(f) If either Clearing Organization has a Net Loss (solely for the purposes of this Paragraph (f), the “worse-off party”) and the other Clearing Organization has a Net Gain (solely for the purposes of this Paragraph (f), the “better-off party”) that is less than or equal to the absolute value of the worse-off party’s Net Loss, then the better-off party shall be required to pay to the worse-off party an amount equal to such Net Gain; *provided, however,* that notwithstanding anything to the contrary in this Agreement, the better-off party shall only be required to pay the

amount of such Net Gain to the worse-off party if it is not prohibited by statute, court order or other applicable law from making such payment.

(g) In liquidating the Used Positions of their respective Cross-Margining Participants, FICC and CME shall each determine as soon as practicable, but in any event within 15 calendar days from the day of the Default Event, the Cross Margin Gain or Cross Margin Loss at the Net Gain or Net Loss of that Clearing Organization. FICC shall notify CME, and CME shall notify FICC, of the amount of its own Cross Margin Net Gain or Cross Margin Net Loss and, in such detail as may reasonably be requested, the means by which such calculation was made. If FICC is obligated to make a payment of the Payment Obligation to CME, or CME is obligated to make a payment of the Payment Obligation to FICC, in respect of a Guaranty, the Clearing Organization obligated to make such payment shall do so promptly and in no event later than the third Business Day following the calculation by both Clearing Organizations of their Net Gain or Net Loss, as applicable. All payments required to be made under this Paragraph (g) shall be made in immediately available funds.

~~(b) In liquidating the Used Positions of their respective Cross-Margining Participants, FICC and CME shall each apply any proceeds of closing out positions as follows:~~

- ~~• CME shall compute proceeds from the long side of market positions (long futures, long calls and short puts) separately from the short side of market positions (short futures, short calls and long puts).~~
- ~~• FICC shall compute proceeds from long Government Securities positions separately from short Government Securities positions.~~

~~Only the proceeds from the side of market that was offset pursuant to this Agreement at the last margin cycle (“the Isolated Side”) will be allocated to determine the Cross Margin Gain or Cross Margin Loss.~~

- ~~• At CME, with regard to CME Eligible Products, the proceeds from the Isolated Side from each Offset Class without regard to any Margin or Available Margin will be allocated based on the following fraction: the number of Eurodollar delta equivalents which comprise the Used Positions for that Offset Class for the last cross margining cycle, divided by the total number of Eurodollar delta equivalents from the side of market that was offset.~~
- ~~• At CME, with regard to CBOT Eligible Products, the proceeds from the Isolated Side from each Offset Class without regard to any Margin or Available Margin will be allocated based on the following fraction: the value of futures contracts and options on futures contracts that were offset pursuant to this Agreement for that Offset Class, divided by the total market value of futures contracts and options on futures contracts in the Offset Class from the side of the market that was offset.~~
- ~~• At FICC, the proceeds from the Isolated Side from each Offset Class without regard to any Margin or Available Margin will be allocated based on the following fraction: the market value of Government Securities that was offset pursuant to this~~

~~Agreement for that Offset Class, divided by the total market value of Government Securities in the Offset Class from the side of market that was offset.~~

~~In the event that (i) the sum of any allocated proceeds of the liquidation of the Used Positions on the Isolated Side of the market realized by such Clearing Organization (including securities deliverable to, and amounts receivable in respect of securities deliverable by, such Cross-Margining Participant in settlement of the Used Positions) and any Mark-to-Market Payments or other settlement amounts due from such Clearing Organization in respect of the Isolated Side of the Used Positions exceeds (ii) the sum of the allocated Mark-to-Market Payments or other settlement amounts owed to such Clearing Organization in respect of, or as a result of the closeout of, the Used Positions on the Isolated Side of the Market (including securities deliverable by, or amounts payable in respect of securities deliverable to, such Cross-Margining Participant in respect of the Used Positions), plus any interest expense, fees, commissions or other costs reasonably incurred in such close-out or otherwise arising from such Used Positions, then the amount of such excess shall be deemed to be the Cross Margin Gain. In the event that the sum referred to in clause (i) of the preceding sentence is less than the amount referred to in clause (ii), the difference shall be the Cross Margin Loss.~~

~~(e) Notwithstanding the foregoing, in the case of a Cross-Margining Participant that is, or that has a Cross-Margining Affiliate that is, a Cross-Margining Participant of one or more Other COs, such Cross-Margining Participant's Cross Margin Gain or Cross Margin Loss at FICC shall be allocated among the CME and Other COs in accordance with the Pro Rata Share fraction computed in Section 5 above with respect to each Offset Class.~~

~~(d) If neither FICC nor CME has a Cross Margin Loss, no payment will be due to either Clearing Organization in respect of the Guaranties between FICC and CME referred to in Sections 8A and 8B below (although a payment may be due under Section 8C of this Agreement). If FICC and CME each has a Cross Margin Loss that exceeds the Cross-Margining Reduction, or each has an equal Cross Margin Loss, such Guaranties will offset one another and no payment will be due to either Clearing Organization (although a payment may be due under Section 8C of this Agreement).~~

~~If either FICC or CME has a Cross Margin Loss (hereinafter the "worse off party") and the other has a smaller Cross Margin Loss, no Cross Margin Loss or a Cross Margin Gain (hereinafter the "better off party"), then the worse off party shall be entitled to receive a payment from the better off party known as the Preliminary Payment Obligation and equal to the smallest of the following:~~

- ~~(i) the Cross Margin Loss of the worse off party;~~
- ~~(ii) the higher of (a) the Base Amount of the Guaranty or (b) Cross Margin Gain of the better off party;~~
- ~~(iii) the amount required to equalize FICC's and CME's Cross Margin Gains (Losses);~~
~~or~~
- ~~(iv) the amount by which the Base Amount of the Guaranty exceeds the better off party's Cross Margin Loss if both parties have Cross Margin Losses.~~

~~For purposes of the foregoing determination of the Preliminary Payment Obligation owed by one Clearing Organization to another, a Clearing Organization that has elected unilaterally not to suspend or liquidate any of the Used Positions of the Defaulting Member or its Cross Margining Affiliate (the “Non-Liquidating CO”) shall be deemed to have a Cross Margin Gain equal to the Cross Margin Loss of the Clearing Organization that liquidated all of the Used Positions of the Defaulting Member or its Cross Margining Affiliate (the “Liquidating CO”). Notwithstanding the previous sentence, the Non-Liquidating CO shall not be deemed to have a Cross Margin Gain that is less than the Base Amount of the Guaranty. Notwithstanding the previous sentences, in the event a Clearing Organization is directed not to suspend or liquidate the Defaulting Member or its Cross Margining Affiliate by a regulatory authority in order to promote safety and soundness, the Clearing Organization shall be deemed to have a Cross Margin Gain equal to the Base Amount of the Guaranty.~~

~~A Clearing Organization that has elected to liquidate a portion, but not all, of the Used Positions of the Defaulting Member or its Cross Margining Affiliate (the “Partially Liquidating CO”) shall be deemed to have a Cross Margin Gain or Loss equal to the gain or loss on the liquidated portion plus a gain equal to a pro-rated amount of the Cross Margin Loss of the Liquidating CO, pro-rated based on the portion of the Used Positions that the Partially Liquidating CO did not liquidate. Notwithstanding the previous sentences, the Partially Liquidating CO shall not be deemed to have, with respect to the unliquidated portion of the Used Positions, a gain which is less than the pro-rated amount of the Base Amount of the Guaranty, pro-rated based on the unliquidated portion of the Used Positions. Notwithstanding the previous sentences, in the event a Clearing Organization is directed to partially liquidate a Defaulting Member or its Cross Margining Affiliate by a regulatory authority in order to promote safety and soundness, the Clearing Organization shall be deemed to have a Cross Margin Gain or Loss equal to the gain or loss on the liquidated portion plus a gain equal to a pro-rated amount of the Base Amount of the Guaranty, pro-rated based on a portion of the Used Positions that the Clearing Organization did not liquidate. The Clearing Organization that determines to liquidate a portion, but not all of, the Used Positions shall do so in good faith based on legitimate business reasons or because it is directed to do so by a regulatory authority in order to promote safety and soundness.~~

~~(e) If FICC is obligated to make a payment of the Preliminary Payment Obligation to CME, or CME is obligated to make a payment of the Preliminary Payment Obligation to FICC, in respect of a Guaranty, the Clearing Organization obligated to make such payment shall do so promptly and in no event later than the third Business Day following the calculation by both Clearing Organizations of their Cross Margin Gain or Cross Margin Loss pursuant to Section 7(a) of this Agreement. Such payment shall be made in immediately available funds.~~

~~(f) The worse off party shall be required to return all or a portion of the Preliminary Payment Obligation in the form of an Adjustment Payment under the circumstances set forth in this paragraph. In order to establish whether the Preliminary Payment Obligation shall be returned, in whole or in part, to the better off party, each Clearing Organization shall compute its Aggregate Net Loss (Aggregate Net Surplus) and shall do so promptly and in no event later than 15 calendar days from the day on which the better off party paid the Preliminary Payment Obligation to the worse off party. If the worse off party computes an Aggregate Net Surplus, it shall make a payment to the better off party, in respect of a Guaranty, known as the Adjustment Payment and equal to~~

~~the lesser of: (i) the worse off party's Aggregate Net Surplus or (ii) the Preliminary Payment Obligation. Such Adjustment Payment shall be made promptly and in no event later than the third Business Day following the calculation of the Aggregate Net Surplus (Aggregate Net Loss) by both Clearing Organizations. Such payment shall be made in immediately available funds.~~

~~(h)~~ ~~(g)~~ If at any time within 90 calendar days following the ~~Default Event~~date on which a payment is made under Paragraph (g), either Clearing Organization determines that any amount paid to or received from the other Clearing Organization pursuant to ~~Sections 7(e) and/or 7(f) of this Agreement~~Section 7 in respect of a Guaranty was incorrect either because of errors in calculation at the time or because new information relevant to the determination of such amount was discovered after the determination of such amount, the Clearing Organization that discovered the error or new information shall notify the other Clearing Organization. In such event, the Clearing Organizations shall: (i) cooperate with one another to recalculate the appropriate amount of any Guaranty payments to be made promptly and in no event later than fifteen (15) calendar days from the ~~day~~date on which the Clearing Organization that discovered the error or new information notified the other Clearing Organization, and (ii) make any necessary payments to one another to correct the error within three (3) Business Days following agreement on such recalculation by both Clearing Organizations. Such ~~payment(s)~~payments shall be made in immediately available funds.

~~(i)~~ ~~(h)~~ In the event that either Clearing Organization (the ~~"Guarantor"~~) becomes obligated to make a Guaranty payment to the other Clearing Organization (the ~~"Beneficiary"~~) in respect of the obligation of a Defaulting Member ~~or its Cross-(including, in the case of a pair of Cross-Margining Affiliates, the obligation of a Cross-Margining Affiliate that is a Cross-Margining Participant at the Beneficiary),~~ to the Beneficiary, the Defaulting Member ~~and such Affiliate (including, in the case of a pair of Cross-Margining Affiliates, both Cross-Margining Affiliates jointly and severally)~~ shall thereupon immediately be obligated, whether or not the Guarantor has then made the Guaranty payment to the Beneficiary, to reimburse the Guarantor for the amount of the Guaranty payment as determined by the Guarantor, and the Guarantor shall be subrogated to all of the rights of the Beneficiary against the Defaulting Member ~~or its (including both Cross-Margining Affiliate. Such obligation (the "-Margining Affiliates, if applicable). The Guarantor shall notify the Defaulting Member (including both Cross-Margining Affiliates, if applicable) of the amount of such obligation (the "Reimbursement Obligation"), but such notification shall not be a condition to the rights of the Clearing Organizations hereunder, and the Reimbursement Obligation~~ shall be due immediately upon ~~a demand by the Guarantor to the Defaulting Member or its Cross-Margining Affiliate specifying the amount of such obligation~~the determination of the amount thereof. In the event that the final amount of the Guaranty ~~Payment~~payment is greater or less than the amount originally determined, the Reimbursement Obligation shall be adjusted accordingly, and payment of the difference shall be made between the Guarantor and the Defaulting Member ~~(or its the relevant Cross-Margining Affiliate, as appropriate)~~. It is understood and agreed that any payment or obligation to make a payment between the Guarantor ~~or its Cross-Margining Participant~~ and the Beneficiary with respect to the Guaranty, and any payment or obligation to make payment between the Defaulting Member ~~or its (including a Cross-Margining Affiliate, as applicable)~~ and the Guarantor, is ~~(i) a "margin payment" or "settlement payment" or an obligation to make a "margin payment" or "settlement payment" as defined,~~ and (ii) a transfer in connection with a "swap agreement," "commodity contract," "forward contract,"

“securities contract” or “master netting agreement,” as such terms are defined in the Bankruptcy Code, as the case may be. ~~In the event that the Guarantor had an Aggregate Net Surplus in respect of the Defaulting Member or its Cross Margining Affiliate, such Aggregate Net Surplus shall constitute cash, securities, or other property held by or due from the Guarantor within the meaning of Section 362 of the Bankruptcy Code, and the Reimbursement Obligation of the Defaulting Member or its Cross Margining Affiliate shall be netted and set off against such Aggregate Net Surplus, and any remaining Aggregate Net Surplus shall be returned to the Defaulting Member or its representative or otherwise disposed of in accordance with the Rules of the Guarantor, subject to Section 8C. Each Guarantor has a security interest in the Aggregate Net Surplus as security for the Reimbursement Obligation, and has all rights of a secured creditor under the New York Uniform Commercial Code.~~

(j) For purposes of Title IV, Subtitle A of the Federal Deposit Insurance Corporation Improvement Act of 1991 (12 USC 4401-4407), this Agreement, together with the FICC Rules, the CME Rules and any other agreements between FICC, CME and a Cross Margining Participant or any Affiliate thereof, is a “netting contract” and all payments made or to be made hereunder, including payments made in accordance with this Agreement in connection with the liquidation of a Cross Margining Participant are “covered contractual payment obligations” or “covered contractual payment entitlements,” as the case may be, as well as “covered clearing obligations.”

(k) (i) A narrative description of the loss-sharing process is set forth on Appendix I hereto. Numerical examples of the calculation of Cross Margin Gain or Cross Margin Loss in liquidating the Used Positions of a Defaulting Member, and the related calculation of the amount of any payments under the Guaranty are set forth on Appendix J hereto. The examples are intended as an aid to interpretation of the verbal description of those calculations as set forth in this Agreement. In the event of an inconsistency between the provisions of the main part of this Agreement and Appendix I and/or J, the main provisions of this Agreement shall govern.

(l) The Clearing Organizations will include in the SLA examples of the liquidation scenarios and associated payment obligations described in this Section 7.

8. 8A.—Guaranty of FICC to CME.

(a) (a)—FICC hereby unconditionally ~~guaranties~~guarantees the prompt payment when due (whether at maturity, by declaration, by demand or otherwise), and at any and all times thereafter, of all indebtedness and other obligations of every kind and nature of each Cross-Margining Participant or its Cross-Margining Affiliate (hereafter referred to, in either case, as ~~“CME’s Debtor”~~) to CME, direct or indirect, absolute or contingent, due or to become due, whether now or hereafter existing, arising from or related to ~~the Used~~Eligible Positions or the liquidation, transfer or management thereof, ~~but limited to the amounts determined in accordance with Section 7 of this Agreement~~ (all such indebtedness and other obligations ~~being hereinafter collectively called, the “Indebtedness to CME”~~), but limited to, the amounts determined in accordance with Section 7 of this Agreement. FICC further agrees to pay any and all reasonable costs and expenses (including counsel fees and expenses) incurred by CME in enforcing its rights against FICC under this Section ~~8A.8.~~8.

(b) ~~(b)~~—The creation or existence from time to time of Indebtedness to CME (whether or not such Indebtedness may be in excess of the amounts determined in accordance with Section 7 of this Agreement to which the right of recovery under this Guaranty is limited) is hereby authorized without notice to FICC and shall in no way affect or impair this Guaranty.

(c) ~~(c)~~—The liability of FICC under this Guaranty shall be unconditional and irrespective of (i) any lack of enforceability of any Indebtedness to CME or any guaranty thereof, (ii) any change of the time, manner or place of payment, or any other term, of any Indebtedness to CME or any guaranty thereof, (iii) any taking, exchange, subordination, release or non-perfection of any collateral securing payment of any Indebtedness to CME; (iv) the acceptance of additional parties or the release of anyone primarily or secondarily liable on the Indebtedness to CME; (v) any law, rule, regulation or order of any jurisdiction or any governmental, regulatory or administrative authority of any kind, whether now or hereafter in effect, affecting any term of any Indebtedness to CME or any guaranty or security therefor or CME's rights with respect thereto; and (vi) any other circumstance which might otherwise constitute a defense available to, or a discharge of, CME's Debtor or a guarantor. FICC waives promptness, diligence, and notices with respect to any Indebtedness to CME and this Guaranty and any requirement that CME exhaust any right or take any action against CME's Debtor or any other person or entity or with respect to any guaranty or collateral security therefor and any duty on CME's part to disclose to FICC any matter, fact or thing related to the business, operations or conditions (financial or otherwise) of CME's Debtor or its affiliates or its property, whether now or hereafter known by CME. FICC acknowledges that this Guaranty is a guaranty of payment, not collection, and that FICC has made and will continue to make its own investigations with respect to all matters regarding CME's Debtor.

(d) ~~(d)~~—In the event that FICC makes any payment to CME under this Guaranty, and to the extent such payment is not ~~returned~~reimbursed to FICC in whole or in part pursuant to Section 7(f) of this Agreement, FICC shall be subrogated to the rights of CME against the Cross-Margining Participant or its Cross-Margining Affiliate in respect of whose Indebtedness to CME such payment was made and to the rights of CME against any other guarantor or other third party with respect to such Indebtedness to CME.

(e) ~~(e)~~—All of CME's rights and remedies provided for herein or otherwise available to CME at law or otherwise shall be cumulative to the extent permitted by law.

~~(f) The Base Amount of FICC's Guaranty to CME under paragraph (a) of this Section 8A with respect to each of CME's Debtors shall be equal to the Cross-Margining Reduction as calculated by FICC with respect to each such CME Debtor and such Base Amount shall become effective as follows:~~

~~(i) An increase in the Cross-Margining Reduction shall become effective at the time at which FICC provides CME with a valid cross-margining output file reflecting such increase.~~

~~(ii) A decrease in the Cross-Margining Reduction, including to zero, shall become effective at 11:00 a.m. New York time on the Business Day following the Business Day for which the decrease was calculated.~~

~~In the event that either Clearing Organization cannot complete its settlement on any Business Day because of an event of force majeure and thus is not able to act upon the decrease in the Cross-Margining Reduction by 11:00 a.m. New York time, then subsection (ii) above shall not apply and the Clearing Organizations shall confer with one another and agree upon a course of action that will protect both Clearing Organizations.~~

~~An illustrative example of the timing of the effectiveness of the Base Amount of the Guaranty is shown in Appendix K hereto. The example is intended as an aid to interpretation of the verbal description of the timing as set forth in this section of the Agreement. In the event of an inconsistency between the provisions of the main part of this Agreement and Appendix K, the provisions of the main part of this Agreement shall govern.~~

9. ~~8B.~~ Guaranty of CME to FICC.

(a) ~~(a)~~—CME hereby unconditionally ~~guaranties~~guarantees the prompt payment when due (whether at maturity, by declaration, by demand or otherwise), and at any and all times thereafter, of all indebtedness and other obligations of every kind and nature of each Cross-Margining Participant or its Cross-Margining Affiliate (hereafter referred to, in either case, as "FICC's Debtor") to FICC, direct or indirect, absolute or contingent, due or to become due, whether now or hereafter existing, arising from or related to ~~Used~~Eligible Positions or the liquidation ~~thereof, transfer or management thereof (all such indebtedness and other obligations, the "Indebtedness to FICC")~~, but limited to the amounts determined in accordance with Section 7 of this Agreement ~~(all such indebtedness and other obligations being hereinafter collectively called the "Indebtedness to FICC")~~. CME further agrees to pay any and all reasonable costs and expenses (including counsel fees and expenses) incurred by FICC in enforcing its rights against CME under this Section ~~8B.9.~~

(b) ~~(b)~~—The creation or existence from time to time of Indebtedness to FICC (whether or not such Indebtedness may be in excess of the amounts determined in accordance with Section 7 of this Agreement to which the right of recovery under this Guaranty is limited) is hereby authorized without notice to CME and shall in no way affect or impair this Guaranty.

(c) ~~(c)~~—The liability of CME under this Guaranty shall be unconditional and irrespective of (i) any lack of enforceability of any Indebtedness to FICC or any guaranty thereof, (ii) any change of the time, manner or place of payment, or any other term, of any Indebtedness to FICC or any guaranty thereof, (iii) any taking, exchange, subordination, release or non-perfection of any collateral securing payment of any Indebtedness to FICC; (iv) the acceptance of additional parties or the release of anyone primarily or secondarily liable on the Indebtedness to FICC; (v) any law, rule, regulation or order of any jurisdiction or any governmental, regulatory or administrative authority of any kind, whether now or hereafter in effect, affecting any term of any Indebtedness to FICC or any guaranty or security therefor or FICC's rights with respect thereto; and (vi) any other circumstance which might otherwise constitute a defense available to, or a discharge of, FICC's Debtor or a guarantor. CME waives promptness, diligence, and notices with respect to any Indebtedness to FICC and this Guaranty and any requirement that FICC exhaust any right or take any action against FICC's Debtor or any other person or entity or with respect to any guaranty or collateral security therefor and any duty on FICC's part to disclose to CME any matter, fact or thing related to the business, operations or conditions (financial or otherwise) of FICC's Debtor or its

affiliates or its property, whether now or hereafter known by CME. CME acknowledges that this Guaranty is a guaranty of payment ~~not collection~~, not collection, and that CME has made and will continue to make its own investigations with respect to all matters regarding FICC's Debtor.

~~(d) In the event that CME makes any payment to FICC under this Guaranty, and to the extent such payment is not returned to CME in whole or in part pursuant to Section 7(f) of this Agreement, CME shall be subrogated to the rights of FICC against the Cross Margining Participant or its Cross Margining Affiliate in respect of whose Indebtedness to FICC such payment was made and to the rights of FICC against any other guarantor or other third party with respect to such Indebtedness to FICC.~~

~~(e) All of FICC's rights and remedies provided for herein or otherwise available to FICC at law or otherwise shall be cumulative to the extent permitted by law.~~

~~(f) The Base Amount of CME's Guaranty to FICC under paragraph (a) of this Section 8A with respect to each of FICC's Debtors shall be equal to the Cross Margining Reduction as calculated by FICC with respect to each such FICC Debtor and such Base Amount shall become effective as follows:~~

- ~~(i) An increase in the Cross Margining Reduction shall become effective at the time at which FICC provides CME with a valid cross margining output file reflecting such increase.~~
- ~~(ii) A decrease in the Cross Margining Reduction, including to zero, shall become effective at 11:00 a.m. New York time on the Business Day following the Business Day for which the decrease was calculated.~~

~~In the event that either Clearing Organization cannot complete its settlement on any Business Day because of an event of force majeure and thus is not able to act upon the decrease in the Cross Margining Reduction by 11:00 a.m. New York time, then subsection (ii) above shall not apply and the Clearing Organizations shall confer with one another and agree upon a course of action that will protect both Clearing Organizations.~~

~~An illustrative example of the timing of the effectiveness of the Base Amount of the Guaranty is shown in Appendix K hereto. The example is intended as an aid to interpretation of the verbal description of the timing as set forth in this section of the Agreement. In the event of an inconsistency between the provisions of the main part of this Agreement and Appendix K, the provisions of the main part of this Agreement shall govern.~~

~~8C. Maximization Payment~~

~~(a) If, after payment is made under the Guaranty referred to in Sections 8A and 8B of this Agreement, FICC has an Aggregate Net Surplus, FICC's Aggregate Net Surplus shall:~~

- ~~— First be distributed among the clearing organizations that are parties to the agreements listed in Appendix A by FICC as having priority over this Agreement in accordance with the terms of those agreements;~~

~~—The remainder of FICC’s Aggregate Net Surplus shall be divided among CME and Other COs on a pro-rated basis based upon the Base Amount of the Guaranty (or comparable amounts under such other cross margining agreements) in effect prior to the Default Event of the Defaulting Member that was computed by FICC for each such clearing organization in relation to the aggregate Base Amounts of the Guaranties (or other comparable amounts under such other cross margining agreements) in effect prior to the Default Event of the Defaulting Member that were computed by FICC for such clearing organizations pursuant to their applicable cross margining agreements until either all Aggregate Net Losses of CME and the Other COs are fully satisfied or FICC’s Aggregate Net Surplus has been used up.~~

~~(b) If, after payment is made under the Guaranty referred to in Sections 8A and 8B of this Agreement, CME computes an Aggregate Net Surplus, CME’s Aggregate Net Surplus shall~~

~~—First be distributed among the clearing organizations that are parties to the agreements listed in Appendix A by CME as having priority over this Agreement in accordance with the terms of those agreements;~~

~~—The remainder of CME’s Aggregate Net Surplus shall be divided among FICC and the other clearing organizations with which CME has signed cross margining agreements on a pro-rated basis based upon the Base Amount of the Guaranty (or comparable amounts under such cross margining agreements) in effect prior to the Default Event of the Defaulting Member in relation to the aggregate Base Amount of the Guaranties (or comparable amounts under such cross margining agreements) until either all Aggregate Net Losses of FICC and such other clearing organizations are fully satisfied or CME’s Aggregate Net Surplus has been used up.~~

~~(c) —In the event of any order or judgment of a court of competent jurisdiction (the “Court”) that any amount of the Maximization Reimbursement Obligation relating to any Maximization Payment paid pursuant to this Section 8C by a Clearing Organization (the “Payor Clearing Organization”) to the other Clearing Organization (the “Payee Clearing Organization”) may not be recovered by the Payor Clearing Organization from the Aggregate Net Surplus, the Payee Clearing Agency shall repay that amount to the Payor Clearing Organization; provided, however, that (i) if the Payee Clearing Organization is ordered by the Court to pay to the Defaulting Member (or to any person on behalf of the Defaulting Member) the Maximization Payment paid by the Payor Clearing Organization to the Payee Clearing Organization, then such amount shall be paid by the Payee Clearing Organization to the Defaulting Member (or to such other person on behalf of the Defaulting Member) and such payment shall discharge any obligation of the Payor Clearing Organization to the Defaulting Member and any obligation of the Payee Clearing Organization to the Payor Clearing Organization for such amount, and (ii) if the Payee Clearing Organization is ordered by the Court to pay to the Defaulting Member (or to any person on behalf of the Defaulting Member) only a portion of the Maximization Payment paid by the Payor Clearing Organization to the Payee Clearing Organization, then (A) such amount shall be paid by the Payee Clearing Organization to the Defaulting Member (or to such other person on behalf of the Defaulting Member) and such payment shall discharge any obligation of the Payor Clearing Organization to the Defaulting Member and any obligation of the Payee Clearing Organization to the Payor~~

~~Clearing Organization for such amount and (B) the excess which is not paid to the Defaulting Member (or to any other person on behalf of the Defaulting Member) shall be retained by the Payee Clearing Organization or repaid to the Payor Clearing Organization in accordance with their rights and obligations under this Section 8C. The parties hereto shall cooperate with each other, including in any action or proceeding in any Court, to endeavor to prevent any redundant payments to the Defaulting Member.~~

~~(d) — In the event that either Clearing Organization (the "Maximization Payment Guarantor") becomes obligated to make a Maximization Payment pursuant to the Maximization Payment Guaranty to the other Clearing Organization (the "Maximization Payment Beneficiary") in respect of the obligation of a Defaulting Member or its Cross-Margining Affiliate to the Maximization Payment Beneficiary, the Defaulting Member and such Affiliate shall thereupon immediately be obligated, whether or not the Maximization Payment Guarantor has then made the Maximization Payment to the Maximization Payment Beneficiary, to reimburse the Maximization Payment Guarantor for the amount of the Maximization Payment as determined by the Maximization Payment Guarantor, and the Maximization Payment Guarantor shall be subrogated to all of the rights of the Maximization Payment Beneficiary against the Defaulting Member or its Cross-Margining Affiliate. Such obligation (the "Maximization Reimbursement Obligation") shall be due immediately upon a demand by the Maximization Payment Guarantor to the Defaulting Member or its Cross-Margining Affiliate specifying the amount of such obligation. In the event that the final amount of the Maximization Payment is greater or less than the amount originally determined, the Maximization Reimbursement Obligation shall be adjusted accordingly and payment of the difference shall be made between the Maximization Payment Guarantor and the Defaulting Member or its Cross-Margining Affiliate, as appropriate. It is understood and agreed that any payment or obligation to make payment between the Maximization Payment Guarantor or its Cross-Margining Participant and the Maximization Payment Beneficiary with respect to the Maximization Payment Guaranty, and any payment or an obligation to make a payment between the Defaulting Member or its Cross-Margining Affiliate and the Maximization Payment Guarantor, is a "margin payment" or "settlement payment" or an obligation to make a "margin payment" or "settlement payment" as defined in the Bankruptcy Code. In the event that the Maximization Payment Guarantor had an Aggregate Net Surplus in respect of the Defaulting Member or its Cross-Margining Affiliate, such Aggregate Net Surplus shall constitute cash, securities, or other property held by, or due from, the Maximization Payment Guarantor within the meaning of Section 362 of the Bankruptcy Code, and the Maximization Reimbursement Obligation of the Defaulting Member or its Cross-Margining Affiliate shall be netted and set off against such Aggregate Net Surplus, and any remaining Aggregate Net Surplus shall be returned to the Defaulting Member or its representative or otherwise disposed of in accordance with the Rules of the Guarantor. Each Maximization Payment Guarantor has a security interest in the Aggregate Net Surplus as security for the Maximization Reimbursement Obligation, and has all rights of a secured creditor under the New York Uniform Commercial Code.~~

~~(e) — (i) — FICC hereby unconditionally guaranties (such guaranty being the Maximization Payment Guaranty) the prompt payment when due (whether at maturity, by declaration, by demand or otherwise), and at any and all times thereafter, of all indebtedness and other obligations of every kind and nature of each Cross-Margining Participant or its Cross-Margining Affiliate (hereafter referred to, in either case, as "CME's Debtor") to CME, direct or indirect, absolute or contingent,~~

~~due or to become due, whether now or hereafter existing, but limited to the amounts determined in accordance with Section 8C(a) of this Agreement (all such indebtedness and other obligations being hereinafter collectively called the "Maximization Indebtedness to CME"). FICC further agrees to pay any and all reasonable costs and expenses (including counsel fees and expenses) incurred by CME in enforcing its rights against FICC under this Section 8A, subject to Section 8C(e) of this Agreement.~~

~~——(ii)—— The creation or existence from time to time of Maximization Indebtedness to CME (whether or not such Maximization Indebtedness may be in excess of the amounts determined in accordance with Section 8C(a) of this Agreement to which the right of recovery under this Maximization Payment Guaranty is limited) is hereby authorized without notice to FICC and shall in no way affect or impair this Maximization Payment Guaranty.~~

~~——(iii)—— Subject to Section 8C(e) of this Agreement, the liability of FICC under this Maximization Payment Guaranty shall be unconditional and irrespective of (i) any lack of enforceability of any Maximization Indebtedness to CME or any guaranty thereof, (ii) any change of the time, manner or place of payment, or any other term, of any Maximization Indebtedness to CME or any guaranty thereof, (iii) any taking, exchange, subordination, release or non-perfection of any collateral securing payment of any Maximization Indebtedness to CME; (iv) the acceptance of additional parties or the release of anyone primarily or secondarily liable on the Maximization Indebtedness to CME; (v) any law, rule, regulation or order of any jurisdiction or any governmental, regulatory or administrative authority of any kind, whether now or hereafter in effect, affecting any term of any Maximization Indebtedness to CME or any guaranty or security therefor or CME's rights with respect thereto; and (vi) any other circumstance which might otherwise constitute a defense available to, or a discharge of, CME's Debtor or a guarantor. FICC waives promptness, diligence, and notices with respect to any Maximization Indebtedness to CME and this Maximization Payment Guaranty and any requirement that CME exhaust any right or take any action against CME's Debtor or any other person or entity or with respect to any guaranty or collateral security therefor and any duty on CME's part to disclose to FICC any matter, fact or thing related to the business, operations or conditions (financial or otherwise) of CME's Debtor or its affiliates or its property, whether now or hereafter known by CME. FICC acknowledges that this Maximization Payment Guaranty is a guaranty of payment not collection and that FICC has made and will continue to make its own investigations with respect to all matters regarding CME's Debtor.~~

~~——(iv)—— In the event that FICC makes a Maximization Payment to CME under this Maximization Payment Guaranty, FICC shall be subrogated to the rights of CME against the Cross-Margining Participant or its Cross-Margining Affiliate in respect of whose Maximization Indebtedness to CME such payment was made and to the rights of CME against any other guarantor or other third party with respect to such Maximization Indebtedness to CME.~~

~~——(v)—— All of CME's rights and remedies provided for herein or otherwise available to CME at law or otherwise shall be cumulative to the extent permitted by law.~~

~~(f)——(i)—— CME hereby unconditionally guaranties (such guaranty being the Maximization Payment Guaranty) the prompt payment when due (whether at maturity, by declaration, by demand~~

~~or otherwise), and at any and all times thereafter, of all indebtedness and other obligations of every kind and nature of each Cross-Margining Participant or its Cross-Margining Affiliate (hereafter referred to, in either case, as "FICC's Debtor") to FICC, direct or indirect, absolute or contingent, due or to become due, whether now or hereafter existing, but limited to the amounts determined in accordance with Section 8C(b) of this Agreement (all such indebtedness and other obligations being hereinafter collectively called the "Maximization Indebtedness to FICC"). CME further agrees to pay any and all reasonable costs and expenses (including counsel fees and expenses) incurred by FICC in enforcing its rights against CME under this Section 8A, subject to Section 8C(e) of this Agreement.~~

~~———(ii)—— The creation or existence from time to time of Maximization Indebtedness to FICC (whether or not such Maximization Indebtedness may be in excess of the amounts determined in accordance with Section 8C(b) of this Agreement to which the right of recovery under this Maximization Payment Guaranty is limited) is hereby authorized without notice to CME and shall in no way affect or impair this Maximization Payment Guaranty.~~

~~———(iii)—— Subject to Section 8C(e) of this Agreement, the liability of CME under this Maximization Payment Guaranty shall be unconditional and irrespective of (i) any lack of enforceability of any Maximization Indebtedness to FICC or any guaranty thereof, (ii) any change of the time, manner or place of payment, or any other term, of any Maximization Indebtedness to FICC or any guaranty thereof, (iii) any taking, exchange, subordination, release or non-perfection of any collateral securing payment of any Maximization Indebtedness to FICC; (iv) the acceptance of additional parties or the release of anyone primarily or secondarily liable on the Maximization Indebtedness to FICC; (v) any law, rule, regulation or order of any jurisdiction or any governmental, regulatory or administrative authority of any kind, whether now or hereafter in effect, affecting any term of any Maximization Indebtedness to FICC or any guaranty or security therefor or FICC's rights with respect thereto; and (vi) any other circumstance which might otherwise constitute a defense available to, or a discharge of, FICC's Debtor or a guarantor. CME waives promptness, diligence, and notices with respect to any Maximization Indebtedness to FICC and this Maximization Payment Guaranty and any requirement that FICC exhaust any right or take any action against FICC's Debtor or any other person or entity or with respect to any guaranty or collateral security therefor and any duty on FICC's part to disclose to CME any matter, fact or thing related to the business, operations or conditions (financial or otherwise) of FICC's Debtor or its affiliates or its property, whether now or hereafter known by FICC. CME acknowledges that this Maximization Payment Guaranty is a guaranty of payment not collection and that CME has made and will continue to make its own investigations with respect to all matters regarding FICC's Debtor.~~

~~(f) ——(iv)—— In the event that CME makes a Maximization Payment~~any payment ~~to FICC under this Maximization Payment Guaranty, and to the extent such payment is not reimbursed to CME in whole or in part pursuant to Section 7(i) of this Agreement,~~ CME shall be subrogated to the rights of FICC against the Cross-Margining Participant or its Cross-Margining Affiliate in respect of whose ~~Maximization~~ Indebtedness to FICC such payment was made and to the rights of FICC against any other guarantor or other third party with respect to such ~~Maximization~~ Indebtedness to FICC.

~~(g)~~ ~~(v)~~ All of FICC's rights and remedies provided for herein or otherwise available to FICC at law or otherwise shall be cumulative to the extent permitted by law.

10. ~~9.~~ Confidentiality.

~~(a)~~ ~~(a)~~ Except as expressly authorized in this Agreement ~~and except with respect to information that is disclosed to an Other CO in connection with a Cross-Margining Arrangement,~~ each Clearing Organization shall maintain in confidence, and shall not disclose to any third party, any and all information obtained by it ~~from the other Clearing Organization~~ in connection with ~~(i)~~ this Agreement, ~~or (ii)~~ the transactions or activities contemplated herein with respect to ~~any the other~~ Clearing Organization, ~~or (iii)~~ and the positions, transactions ~~or and~~ financial condition of any Clearing Member ~~("of such other Clearing Organization ("Confidential Information")").~~ The foregoing shall not apply to: ~~(i) any the disclosure of information (i)~~ which is or becomes generally known to the public, other than through an action or failure to act by such Clearing Organization ~~or Clearing Member, or (ii) the disclosure of Confidential Information in violation of this Section 10;~~ ~~(ii)~~ to a third party to whom such information was previously known. ~~This Section 9 shall not prohibit either party from furnishing Confidential Information to:~~ ~~(a; (iii) to~~ the CFTC ~~or,~~ the SEC ~~or;~~ any other regulator or supervisory authority with oversight authority over a Clearing Organization or any of its ~~members,~~ ~~(b) pursuant to any Clearing Members;~~ ~~(iv) to a "registered entity" within the meaning of the CEA or to a "self-regulatory organization" within the meaning of CFTC regulations or the Exchange Act, in either case pursuant to a~~ surveillance agreement or similar arrangement to which such ~~party Clearing Organization~~ is a party, ~~(c) to any "self-regulatory organization" within the meaning of the CEA or;~~ ~~or (v) as may be required by the CEA,~~ the Exchange Act ~~or to any foreign government or regulatory body, or (d), or CFTC or SEC regulations. Each Clearing Organization may disclose Confidential Information~~ to a Representative of such Clearing Organization ~~with who has~~ a "need to know" the Confidential Information and who has been instructed to maintain the confidentiality of such Confidential ~~information in accordance with the provisions of this Agreement~~ Information and who has agreed to do so. The term "Representative" shall mean, with respect to a Clearing Organization, such Clearing Organization's and/or its directors, ~~officers~~ offices, employees, agents, and professional consultants and ~~professional advisers.~~ advisors.

~~(b)~~ ~~(b)~~ In the event that either ~~party is~~ Clearing Organization is legally required by subpoena, ~~or by any other order of court, valid legal process, or by~~ law or regulation, to disclose any Confidential Information in the possession of such ~~party Clearing Organization,~~ it is agreed that the ~~party Clearing Organization~~ which is subject to such requirement shall provide the other ~~party Clearing Organization~~ with prompt written notice of such requirement so that the other ~~party Clearing Organization~~ may seek an appropriate protective order and/or waive compliance with the provisions of this Section 10 with respect to such required disclosure. In the event that ~~such the other~~ ~~party Clearing Organization~~ determines to seek a protective order, the ~~party Clearing Organization~~ subject to the requirement shall cooperate to the extent reasonably requested by the other Clearing Organization. It is further agreed that if in the absence of a protective order or the receipt of a waiver hereunder, the ~~party Clearing Organization~~ subject to the requirement is nonetheless, in the ~~reasonable~~ opinion of its counsel, compelled to disclose such Confidential Information to any tribunal or regulatory agency or

else stand liable for contempt or suffer other censure or penalty, such ~~party~~Clearing Organization may produce such Confidential Information without liability under this Section ~~9~~10.

(c) The provisions of this Section 10 shall survive three (3) years after the termination of this Agreement.

(d) Each Clearing Organization acknowledges and agrees that the violation of its obligations under this Section 10 would cause irreparable harm to the other Clearing Organization, which harm may not be compensable solely by monetary damages, and that, therefore, in the event of an actual or threatened breach by a Clearing Organization of this Section 10, the other Clearing Organization shall be entitled to immediate injunctive and other equitable relief, without the necessity of proving monetary damages or posting bond or other security. Any such equitable relief granted shall be without prejudice to any other rights and remedies a Clearing Organization may have under this Agreement.

11. FDICIA. This Agreement, together with GSD Rules, CME Rules, the Clearing Member Agreement and any other agreements between FICC, CME and a Cross-Margining Participant or any Affiliate thereof is, for purposes of Title IV, Subtitle A of the Federal Deposit Insurance Corporation Improvement Act of 1991 (12 U.S.C. §§ 4401-4407), a “netting contract” and all payments made or to be made hereunder, including payments made in accordance with this Agreement in connection with the liquidation of a Cross-Margining Participant are “covered contractual payment obligations” or “covered contractual payment entitlements,” as the case may be, as well as “covered clearing obligations;” and for purposes of the Bankruptcy Code and the Federal Deposit Insurance Act is a “master netting agreement” with respect to some or all of “swap agreements,” “commodity contracts,” “forward contracts,” and “securities contracts.”

12. ~~10~~-Indemnification.

(a) Each of FICC and CME (the "Indemnitor") shall indemnify, defend and hold harmless the other, its directors, officers, employees, agents and each person, if any, who controls the indemnified Clearing Organization (each an "Indemnified Party") against any Claims and Losses (as defined below) incurred by an Indemnified Party as the result, or arising from allegations, of any act or failure to act by the Indemnitor in connection with this Agreement or the cross-margining procedures contemplated under this Agreement if such act or failure to act constitutes either (i) gross negligence or willful misconduct on the part of the Indemnitor; or (ii) a material breach of this Agreement, or any obligation undertaken in connection with this Agreement, any Rule of the Indemnitor (except to the extent that such Rule is inconsistent with the provisions of this Agreement), or any law or governmental regulation applicable to the Indemnitor.

(b) As used in this Section ~~10~~12, the term "Claims and Losses" means any and all losses, damages and expenses whatsoever arising from claims of third parties including, without limitation, liabilities, judgments, damages, costs of investigation, reasonable attorneys' fees and other expenses and amounts paid in settlement (with the consent of the Indemnitor, which consent shall not be unreasonably withheld) in connection with any action, suit, litigation, claim or

proceeding to which an Indemnified Party is made a party defendant, or is threatened to be made such a party.

(c) Promptly after receipt by an Indemnified Party of notice of the commencement of any action or the assertion of any claim against such Indemnified Party, such Indemnified Party shall, if ~~a~~an indemnification claim in respect thereof is to be made against the Indemnitor, notify the Indemnitor in writing of the commencement of such action or assertion of such claims, but the omission so to notify the Indemnitor will not relieve the Indemnitor from any liability which it may have to any Indemnified Party except to the extent that the Indemnitor has been ~~prejudiced~~materially and adversely affected by the lack of prompt notice and shall in any event not relieve the Indemnitor of any liability which it may have to an Indemnified Party otherwise than under this Section ~~10. In case any such action is brought against any Indemnified Party, and such party promptly notifies the Indemnitor of the commencement thereof, the~~12. The Indemnitor will be entitled to participate in, ~~and, to the extent that it may wish, to assume and control the defense thereof, with counsel chosen by it that is acceptable to the Indemnified Party, which acceptance shall not be unreasonably withheld, and, after notice from the Indemnitor to such Indemnified Party of its election so to assume the defense thereof, the Indemnitor will not be liable to such Indemnified Party under this Section 10 for any legal or other expenses subsequently incurred by such Indemnified Party in connection with the defense thereof other than reasonable costs of investigation, but the Indemnified Party may, at its own expense, participate in such defense by counsel chosen by it, without, however, impairing the Indemnitor's control of the defense. In any action in which the named parties include the Indemnitor and one or more Indemnified Parties, the Indemnitor shall have the right to assume control of any legal defenses that are available to it and any of the Indemnified Parties. Notwithstanding the foregoing, in any action in which the named parties include both the Indemnitor and an Indemnified Party and in which the Indemnified Party shall have been advised by its counsel that there may be legal defenses available to the Indemnified Party that are different from or additional to those available to the Indemnitor, the Indemnitor shall not have the right to assume such different or additional legal defenses, and provided further that the Indemnitor shall not, in connection with one action or separate but substantially similar actions arising out of the same general allegations or circumstances, be liable for more than the reasonable fees and disbursements of one separate firm of attorneys for all of the Indemnified Parties for the purpose of conducting such different or additional legal defenses. The Indemnitor may negotiate a compromise or settlement of any such action or claim provided that such compromise or settlement does not require a contribution by, or otherwise adversely affect the rights of, the Indemnified Party~~ the defense of the action or claim. For the avoidance of doubt, the Indemnified Party shall control its own defense of the action or claim.

13. Rules of the Clearing Organizations.

(a) ~~11. Rules of the Clearing Organizations.~~ FICC and CME each shall propose and use all reasonable efforts to obtain any regulatory approvals necessary to adopt and maintain in effect such provisions in its Rules as are reasonably necessary to implement the provisions of this Agreement. Without limiting the generality of the foregoing, such Rules shall provide that Cross-Margining Participants of the Clearing Organization shall be bound by the provisions of this Agreement and that the Clearing Organization may use its clearing fund, including any rights of

assessments against its Clearing Members, to make payment under any Guaranty given by such Clearing Organization pursuant to Section ~~8A or 8B~~ and Section 9 of this Agreement.

(b) FICC and CME shall, to the extent permitted by law, give each other reasonable prior notice of the intended effectiveness of any ~~rule~~Rule or ~~rule~~Rule amendment (other than an emergency ~~rule~~Rule or ~~rule~~Rule amendment, as to which notice shall be given promptly) adopted by such Clearing Organization if such ~~rule~~Rule or ~~rule~~Rule amendment relates in any way to such Clearing Organization's ~~clearing fund, contributions to capital, or~~Margin requirements, the CME Guaranty Fund or FICC Clearing Fund (as applicable), rights of assessment against its Clearing Members, or similar matters.

~~12. Representations and Warranties.~~

14. ~~(a) CME~~Representations and Warranties. Each Clearing Organization represents and warrants to ~~FICC, and FICC represents and warrants to CME,~~the other as of the date hereof and as of the Effective Date as follows:

(a) (i) ~~—~~Good Standing. It is ~~a corporation~~ duly organized, validly existing and in good standing under the laws of the jurisdiction of its ~~incorporation~~organization, has the power and authority to own its assets and to transact the business in which it is now engaged or proposed to be engaged and is duly qualified and authorized to do business as a foreign corporation or company and is in good standing under the laws of each jurisdiction in which failure to so qualify could have a material adverse effect on its financial condition, business or operations.

(b) (ii) ~~—~~Corporate Power and Authority. It has all requisite corporate power and authority to enter into this Agreement and the agreements referenced ~~in this Agreement~~herein, as applicable, and full power and authority to take all actions required of it pursuant to such agreements. This Agreement and the applicable agreements referenced in this Agreement will constitute, when executed and delivered, valid and binding obligations of such Clearing Organization, and the execution, delivery and performance of all of its obligations under this Agreement and the applicable agreements referenced in this Agreement have been duly authorized by all necessary corporate action on the part of such Clearing Organization.

(c) (iii) ~~—~~No Violation. Except for provisions as to which waivers have been obtained, ~~and except to the extent representations made hereunder as of the date hereof may be subject to the regulatory approvals referred to in paragraph (b) hereof,~~ the execution and delivery of this Agreement and the applicable agreements referenced in this Agreement by the Clearing Organization and the performance of its obligations under this Agreement and the applicable agreements referenced in this Agreement: (i) do not result in a violation or breach of, do not conflict with or constitute a default under, and will not accelerate or permit the acceleration of performance required by; any of the terms and provisions of its ~~certificate or articles of incorporation, by laws~~organizational documents, rules or other governing documents, any note, debt instrument, or any other agreement to which it is a party or to which any of its assets or properties is subject, and will not be an event which after notice or lapse of time or both will result in any such violation, breach, conflict, default or acceleration; and (ii) do not result in a violation or breach of any law, judgment, decree, order, rule or regulation of any

governmental authority or court, whether federal, state or local, at law or in equity, applicable to it or any of its assets or properties.

(d) ~~(iv)~~—Operational Capability. It has adequate personnel, physical facilities, systems, and internal procedures to enable it to satisfactorily communicate with the other Clearing Organization and fulfill all anticipated obligations arising under this Agreement with the necessary promptness and accuracy.

(e) ~~(b) CME represents and warrants to FICC, and FICC represents and warrants to CME, as of the Effective Date that all~~Authorizations and Consents. All authorizations, permits, approvals or consents required to be obtained from, and all notifications and filings required to be made with, all governmental authorities and regulatory bodies and third parties to permit such Clearing Organization to place into effect this Agreement and the applicable agreements referenced in this Agreement and to perform its obligations under this Agreement and under the applicable agreements referenced in this Agreement have been obtained.

(f) ~~(e)~~—These representations and warranties shall be deemed to be repeated each day during the term of the Agreement.

15. ~~13.~~ Termination.

~~(a) FICC may terminate this Agreement without cause by delivering written notice of termination to CME specifying a termination date not less than 30 days following the date on which such notice is sent.~~

~~(b) CME may terminate this Agreement without cause by delivering written notice of termination to FICC specifying a termination date not less than 30 days following the date on which such notice is sent.~~

(a) FICC may terminate this Agreement without cause by delivering written notice of termination to CME specifying a termination date not less than 30 days following the date on which such notice is sent.

(b) CME may terminate this Agreement without cause by delivering written notice of termination to FICC specifying a termination date not less than 30 days following the date on which such notice is sent.

(c) ~~(e)~~—In the event that either FICC or CME fails to perform any material obligation under this Agreement and such failure is not promptly cured after written notice thereof is sent to such Clearing Organization, the non--defaulting Clearing Organization may terminate this Agreement by delivering written notice of such termination to the other party.

(d) CME may terminate this Agreement immediately upon notice to FICC in the event that FICC fails to maintain in effect its registration with the SEC as a securities clearing agency. FICC may terminate this Agreement immediately upon notice to CME in the event CME fails to maintain in effect its registration with the CFTC as a derivatives clearing organization.

(e) At any time during the term of this Agreement, either Party may terminate this Agreement immediately upon written notice to the other Party if: (i) the other Party (A) voluntarily commences any proceeding or files any petition under the bankruptcy laws of the United States, (B) becomes subject to any involuntary bankruptcy or insolvency proceedings under the laws of the United States, which proceedings are not dismissed within thirty (30) days, (C) makes an assignment of all or substantially all of its assets for the benefit of its creditors, or (D) appoints a receiver, trustee, custodian or liquidator for a substantial portion of its property, assets or business; or (ii) the other Party passes a resolution for its winding up or dissolution or a court of competent jurisdiction makes an order for such other Party's winding up or dissolution.

(f) ~~(d)~~ In the event that a termination date is established under paragraphs (a), (b) or (c) above, each Clearing Organization shall promptly notify all of its Cross-Margining Participants. Each Clearing Organization shall cooperate fully in exchanging all necessary data, records, computer files and other information, and in executing documents and taking other action necessary or appropriate to effect transfers, releases, etc. in order to effect termination of the Cross-Margining Arrangement as to the terminating parties. In the event that a liquidation of a Cross-Margining Participant is pending on or was completed prior to, the termination date, the provisions of this Agreement pertaining to such liquidation shall survive the termination until such liquidation has been completed and any payment due under the Guaranty due from one Clearing Organization to the other in respect of such liquidation has been paid.

(g) ~~(e)~~ All Survival of Obligations. The obligations of the Clearing Organizations arising under Sections 8, 9 and 10, 12 and 17 of this Agreement prior to the termination thereof that remain unsatisfied shall survive the termination of this Agreement, including any rights of subrogation under Sections 8A and 8B of this Agreement. In addition, the provisions of Section 9 shall survive the termination of this Agreement to the extent that they apply to Confidential Information received by a Clearing Organization prior to the termination of this Agreement and the provisions of Section 10 shall survive the termination of this Agreement to the extent that the event giving rise to an obligation of indemnification occurs prior to shall survive the termination of this Agreement.

16. ~~14.~~ Information Sharing.

(a) ~~(a)~~ ~~FICC and CME~~ The Clearing Organizations hereby agree to provide one another with the following information regarding their respective Cross-Margining Participants:

- (i) ~~(i)~~ If either Clearing Organization applies any special surveillance procedures to a ~~particular~~ Cross-Margining Participant or places such Cross-Margining-Margin Participant on remedial ~~action~~ actions status or higher, as provided in such Clearing Organization's Rules, such Clearing Organization ~~will~~ shall promptly ~~inform~~ notify the other Clearing Organization of that fact.
- (ii) ~~(ii)~~ If either Clearing Organization requires more frequent reporting of financial information by a ~~particular~~ Cross-Margining

Participant, that Clearing Organization ~~will promptly inform~~ shall notify the other Clearing Organization of that fact and the period of reporting.

- (iii) ~~——(iii)——~~ If either Clearing Organization increases the capital requirement for ~~a particular~~ any Cross-Margining Participant, that Clearing Organization ~~will promptly~~ shall notify the other Clearing Organization of that fact, the amount of the additional capital required and the deadline for meeting the requirement.
- (iv) ~~——(iv)——~~ If either Clearing Organization imposes ~~higher~~ additional margin requirements with respect to a particular Cross-Margining Participant, or issues a special intra-day call for Margin ~~or settlement variation~~ in respect of any account of a Cross-Margining Participant, that Clearing Organization shall ~~promptly~~ notify the other Clearing Organization of that fact and the amount of the additional ~~Margin~~ margin required.
- (v) ~~——(v)——~~ Each Clearing Organization shall, upon request by the other Clearing Organization, ~~promptly~~ furnish to such other Clearing Organization the following information with respect to each account carried by ~~at~~ the Cross-Margining Participant with the Clearing Organization from whom the information is requested: (A) Margin required and on deposit in respect of such account, and (B) the dollar amount of any current settlement obligations owed to or by the Cross-Margining Participant that have been determined for such account, ~~including, but not limited to, variation margin in respect of~~ Variation Margin, premiums, option exercises and any other settlements. ~~CME shall, upon request by FICC, promptly furnish to FICC the conversion factor(s) used in implementing the conversion set forth in Appendix C2.~~
- (vi) ~~——(vi)——~~ Each Clearing Organization shall ~~promptly~~ notify the other Clearing Organization of any disciplinary action (other than an appeal from an administrative fine) taken by its governing board, or committee or subcommittee thereof, against a Cross-Margining Participant involving ~~material~~ non-compliance with financial or financial reporting requirements, or ~~material~~ violation of ~~its~~ the Rules.
- (vii) ~~——(vii)——~~ Each Clearing Organization shall ~~promptly~~ notify the other Clearing Organization in the event that the notifying Clearing Organization learns of any major processing difficulties (including, but not limited to, back-office ~~or bank~~ computer problems) or ~~any major~~ operational errors of a Cross-Margining Participant.
- (viii) Each Clearing Organization ~~agrees to promptly~~ shall notify ~~each~~ the other Clearing Organization in the event that a Cross-Margining Participant defaults ~~materially~~ in any settlement obligation.

~~(ix) If either Clearing Organization suspends, terminates, ceases to act for, or liquidates any Clearing Member, that Clearing Organization will promptly notify the other Clearing Organization of that fact.~~

~~(x) In the case of any notice given pursuant to paragraphs Clauses (i), (ii), (iii), (iv), (vii), or (viii) above, the Clearing Organization giving such notice shall also notify the recipient other Clearing Organization when the condition giving rise to such notice is terminated. (b) FICC agrees The Clearing Organizations hereby agree to inform ~~CME, and CME agrees to inform FICC~~, as requested, of the total size of or a material change in one another, upon request, of the total size of, and aggregate amount of required contributions to, such Clearing Organization's ~~clearing or guaranty fund~~'s Clearing Fund or Guaranty Fund, as applicable.~~

~~(b) (e) Any notice required to be given pursuant to this Section 1416 shall be given by ~~facsimile, telephone, or e~~-electronic mail promptly upon the occurrence of the event giving rise to the requirement of notification. ~~Any, and any such~~ notice given by telephone ~~or e-mail~~ shall be promptly confirmed in writing. ~~Notices shall be deemed given when received.~~ Each such notice shall be directed as follows:~~

~~If to FICC: *[amended February 28, 2011; further amended February 3, 2016]*~~

~~Mr. Murray Pozmanter
Managing Director, Head of Clearing Agency Services~~

~~Fixed Income Clearing Corporation
570 Washington Blvd.
Jersey City, New Jersey 07310
Attention: Group Chief Risk Officer
Telephone: ~~(212) - 855 - 7522~~
Fax: ~~(212) 855-4163~~
3450
E-mail: mpozmanter@dtcc.com~~

~~and~~

~~Ms. Nikki Poulos
Managing Director and FICC FICCProductRisk@DTCC.com~~

~~and to:~~

~~Fixed Income Clearing Corporation
570 Washington Blvd.
Jersey City, New Jersey 07310
Attention: General Counsel
Telephone: ~~(212) 855-7633~~
Fax: ~~(201) 533-6632, General Counsel's Office~~~~

~~E-mail: npoulos@dtcc.com with a copy to GCOcontractnotices
gcocontractnotices@dtcc.com~~

~~and~~

~~Mr. Joe Brennan
Managing Director, Global Operations & Client Services
Telephone: (212) 855-7695
Fax: (212) 855-7599
E-mail: jbrennan@dtcc.com~~

~~If to CME: *[amended March 11, 2016]*~~

Chicago Mercantile Exchange Inc.
20 S. Wacker Drive Chicago, IL 60606
Attention: President, CME Clearing
Chief Risk Officer, CME Clearing
Telephone: (312) 648-3888
Fax No.: (312) 930-3187
E-mail: ClearingHouseRiskTeam@cmegroup.com
ClearingHouseRiskTeam@cmegroup.com

~~With a copy and~~ to:

Chicago Mercantile Exchange Inc.
20 S. Wacker Drive Chicago, IL 60606
~~Attn~~ Attention: General Counsel, Legal Department
E-mail: legalnotices@cmegroup.com, legalnotices@cmegroup.com

~~Either Clearing Organization may amend or supplement the notice information set forth above by providing notice in writing given by facsimile or hand delivery to the other Clearing Organization. Such notice shall be effective upon receipt. In case of the absence or unavailability of any officer named above, telephone calls shall be directed to another individual who has been designated in writing by the Clearing Organizations as authorized to receive such telephone calls. Prior to the Effective Date of this Agreement, each Clearing Organization shall provide the other with the name and telephone number of any other individual designated by such Clearing Organization pursuant to the preceding sentence.~~

(c) ~~(d)~~ In the event that ~~notification notice~~ is given by ~~either~~ Clearing Organization pursuant to this Section, ~~16~~, such Clearing Organization shall furnish to the other ~~Clearing Organization~~ upon request such additional information or documents relating to the circumstances leading to the ~~notification notice~~ as may reasonably be requested by ~~it~~. ~~Notices shall be deemed given when received~~ ~~the Clearing Organization receiving the notice.~~

17. Liability.

(a) TO THE FULLEST EXTENT PERMISSIBLE UNDER APPLICABLE LAW, EXCEPT AS EXPRESSLY PROVIDED IN PARAGRAPH (b), NEITHER PARTY HERETO SHALL BE LIABLE TO ANY OTHER HEREUNDER FOR ANY INDIRECT, CONSEQUENTIAL, INCIDENTAL, PUNITIVE, EXEMPLARY OR SPECIAL DAMAGES, OR FOR LOSS OF PROFITS, GOODWILL OR CONTRACTS, OR FOR THE PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES, WHETHER ARISING

FROM NEGLIGENCE, BREACH OF CONTRACT OR OTHERWISE, AND WHETHER OR NOT ANY PARTY HERETO SHALL HAVE BEEN ADVISED OF OR OTHERWISE MIGHT HAVE ANTICIPATED THE POSSIBILITY OF SUCH DAMAGES.

(b) Notwithstanding the foregoing, the limitations set forth in this Section 17 will not apply to a Clearing Organization's breach of its obligations under Section 10.

18. ~~15.~~ General Provisions.

(a) ~~(a)~~ Further Assurances. Each ~~party~~ Party agrees, without additional consideration, to execute and deliver such instruments and take such other actions as shall be reasonably required or as shall be reasonably requested by the other party in order to carry out the transactions, agreements and covenants contemplated by this Agreement.

(b) ~~(b)~~ Amendment, Modification and Waiver. ~~Unless otherwise~~ Except as expressly provided for herein, this Agreement, including the main body of this Agreement and all exhibits hereto, may be ~~permanently~~ modified, ~~amended or supplemented only by mutual written agreement of the parties.~~ supplemented or otherwise amended only by an instrument in writing signed on behalf of a duly authorized representative of each Party and in compliance with all applicable laws. A Party may temporarily waive or modify any condition intended to be for its benefit provided such waiver shall be in writing signed by the ~~party or parties~~ Party to be charged. ~~Any delay or~~ The failure of a ~~party hereto at any time to require performance by the other party of any provision of this Agreement shall in no way affect the right of such party to require future performance of that or any other provision of this Agreement and shall not be construed as a waiver of any subsequent breach of any provision, a waiver of this provision itself or a waiver of any other right under this Agreement.~~ Either party hereto may amend Appendix A with respect to itself only upon written notice to the other party hereto. The parties shall inform their respective Cross-Margining Participants of any amendments or modifications made to this Agreement Party to exercise or enforce any right conferred upon it by this Agreement shall not be deemed to be a waiver of any such right or operate so as to bar the exercise or enforcement thereof at any time or times thereafter. No waiver by either Party hereunder shall be effective unless agreed to pursuant to a writing signed by an authorized representative of each Party.

(c) ~~(e)~~ Governing Law. ~~This Agreement shall be governed by and construed in accordance with the laws (without regard to principles of conflicts of laws)~~ Governing Law. The validity and effectiveness of this Agreement shall be governed by, and construed and enforced in accordance with, the internal laws of the State of New York, without giving effect to the provisions, policies or principles of any state law relating to choice or conflict of laws. Subject to Paragraph (n), any legal action or proceeding with respect to this Agreement may be brought exclusively in the federal or state courts located in New York, New York, including the United States District Court for the Southern District of New York, and the Parties hereby (i) irrevocably submit to the exclusive jurisdiction of such courts, and (ii) irrevocably waive, and agree not to assert by way of motion, defense or otherwise, in any such action, any claim that it is not subject personally to the jurisdiction of the above-named courts, that its property is exempt or immune from attachment or execution, that the action is brought in an inconvenient forum, that the venue of the action is improper, or that this Agreement or the transactions contemplated by this

Agreement may not be enforced in or by any of the above-named courts. Service of process shall be in any manner allowed by applicable law.

(d) ~~(d)~~ Notices. Unless otherwise expressly provided ~~in this Agreement herein~~, all notices ~~to be given by any party under this~~ and other communications pertaining to the Agreement ~~shall: (i) will~~ be in writing ~~and shall be given by facsimile, hand delivery; (ii) shall be delivered by certified or registered mail via the United States Postal Service, postage prepaid, by hand, by any nationally~~ recognized ~~courier delivery service, or by confirmed telecopy, to the other parties at the following addresses (or such other addresses as any party may furnish to the others in writing for such purpose)~~ private courier (e.g., Federal Express, UPS, DHL) or via electronic mail; (iii) shall be effective (A) if mailed via certified or registered mail, on the date five (5) calendar days after the date of mailing, or (B) if sent via electronic mail, hand delivered or delivered by private courier, on the date of delivery; and (iv) shall be addressed as follows:

~~*{amended February 2, 2016}*~~

If to FICC:

Fixed Income Clearing Corporation

~~55 Water Street~~

~~New York, NY 10041-0099~~

570 Washington Blvd.

Jersey City, New Jersey 07310

Attention: ~~Head of Clearing Agency Services~~ Group Chief Risk Officer

~~Fax No.: 212-855-4163~~

~~Copy to: Fixed Income Clearing Corporation~~

~~55 Water Street~~

~~New York, NY 10041-0099~~

~~Attention: FICC General Counsel~~

~~Fax No.: 201-533-6632~~

~~Copy to: Fixed Income Clearing Corporation~~

~~55 Water Street~~

~~New York, NY 10041-0099~~

~~Attn.: Managing Director, Global Operations & Client Services~~

~~Fax No.: 212-855-7599~~

Telephone: 212-855-3450

E-mail: FICCProductRisk@DTCC.com

~~*{amended March 11, 2016}*~~

With a copy (which shall not constitute notice) to:

[Fixed Income Clearing Corporation](#)
[570 Washington Blvd.](#)
[Jersey City, New Jersey 07310](#)
[Attention: General Counsel, General Counsel's Office](#)
[E-mail: gcocontractnotices@dtcc.com](#)

If to CME:

Chicago Mercantile Exchange Inc.
20 S. Wacker Drive Chicago, IL 60606
Attention: President, CME Clearing
Chief Risk Officer, CME Clearing
Telephone: 312-648-3888
Fax No.: 312-930-3187
E-mail: ClearingHouseRiskTeam@cmegroup.com

[With a copy \(which shall not constitute notice\) to:](#)

~~Copy to:~~ Chicago Mercantile Exchange Inc.
20 S. Wacker Drive Chicago, IL 60606
Attention: General Counsel, Legal Department
E-mail: legalnotices@cmegroup.com

~~All notices given pursuant to this Agreement shall be effective upon receipt or to such other address or addresses as may hereafter be specified by written notice given by one Party to the other.~~

~~(e) (e) Assignment. This Agreement and all of the provisions hereof shall be binding upon and inure to the benefit of the parties hereto and their respective successors and permitted assigns, but~~ Assignment. Except as otherwise expressly provided herein, neither Party shall assign or otherwise transfer this Agreement nor, or any of the its rights, interests or obligations hereunder shall be assigned by either party hereto under this Agreement, without the prior written consent of the other party, nor is this Agreement intended to confer any rights or remedies upon any person except the parties hereto approval of the other Party, which approval shall not be unreasonably withheld, delayed or conditioned. Any purported assignment or transfer in violation of this Paragraph (e) shall be void.

~~(f) (f) Counterparts. This Agreement may be executed in one or more counterparts, each of which when so executed and delivered shall be deemed an original, but and all of which together shall constitute one and the same instrument. A complete set of counterparts shall be lodged with each Party.~~

~~(g) (g) Headings. The section and paragraph headings contained in this Agreement are solely for the purpose of reference, are not part of the agreement of the parties and shall not affect in any way the meaning or interpretation of this Agreement. Headings. References to sections, paragraphs and exhibits are to sections, paragraphs and exhibits of and to this Agreement, unless otherwise indicated. Section headings are inserted for convenience of reference only~~

and shall not affect the construction of this Agreement. The singular number shall include the plural, and vice versa. Any use of the word “including” will be interpreted to mean “including, but not limited to,” unless otherwise indicated. References to any Person (including the Parties and any other entities referred to) shall be construed to mean such Person and its successors in interest and permitted assigns, as applicable.

~~(h) Entire Agreement. Except as set forth expressly herein or in another instrument in writing signed by the party to be bound thereby which makes reference to this Agreement, this Agreement, including the exhibits hereto, embodies~~ Entire Agreement. This Agreement, together with all exhibits hereto, constitutes the entire agreement and understanding of between the parties hereto in Parties with respect to the subject matter contained herein, and no other restrictions, promises, representations, warranties, covenants, or undertakings in relation thereto exist among the parties. This Agreement hereof and supersedes all prior representations, agreements, negotiations and understandings discussions between the parties Parties with respect to such the subject matter hereof. This Agreement may be accepted in electronic form (e.g., by an electronic or digital signature).

~~(i) Invalid Provision. In the event that any Each provision, or any portion of any provision, of this Agreement shall be considered separable; and if, for any reason be held, any provision of this Agreement is determined by a court of competent jurisdiction to be invalid, illegalunlawful, or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision, or any other portion of any provision, of this Agreement, and this Agreement shall be construed as if such invalid, illegal or unenforceable, such determination shall not affect the enforceability of the remainder of this Agreement or the validity, lawfulness, or enforceability of such provision had never been contained herein in any other jurisdiction.~~

~~(j) Effective Date. This Agreement shall become effective on the date stated in the first paragraph of this Agreement unless otherwise mutually agreed to by FICC and CME. The Effective Date shall be not earlier than later of (i) the date agreed by the parties and (ii) the date on which all necessary regulatory approvals of this Agreement have been received by FICC and CME. (the “Effective Date”).~~

~~(k) Force Majeure. Notwithstanding any other provision of this Agreement, no party hereto shall be liable for any failure to perform or delay in performing its obligations hereunder if such failure or delay is caused by fire, strike, power failure, riot or other civil commotion, acts of nature, acts of federal, state or municipal public authorities, governmentally ordered business or banking moratoria or orders to refrain from using power (whether or not such moratoria or orders are legally authorized), or any other condition or event beyond the reasonable control of the party whose performance is prevented or delayed. Each party agrees to notify the other promptly upon learning that any such condition or event has occurred and shall cooperate with the other, upon request, in arranging alternative procedures and in otherwise taking reasonable steps to mitigate the effects of any inability to perform or any delay in performing.~~

16. Arbitration.

~~(a) Any controversy or claim arising out of or relating to this Agreement, as it may be amended or modified from time to time, including any claim or controversy arising out of or relating to the alleged breach, termination or invalidity thereof and any claim based on federal or state statute, shall be settled by arbitration in accordance with the then current Commercial Arbitration Rules of the American Arbitration Association (the "AAA") to the extent that such Rules do not conflict with any provisions of this section. The parties do not, however, appoint the AAA as administrator of the arbitration.~~

~~(b) The arbitration shall be held at a mutually agreed place or at the offices of AAA in New York City if no agreement is reached. It shall be held before a panel of three arbitrators: one appointed by each Clearing Organization and one neutral arbitrator to be appointed by agreement of the party-appointed arbitrators. The neutral arbitrator shall be an attorney with not less than an aggregate of 12 years of experience in legal practice, legal teaching or adjudication. The neutral arbitrator shall act as chairman.~~

~~(c) A party (the "Claimant") may initiate arbitration under this Agreement by sending to the other party or parties ("Respondents"), by overnight courier, a written demand for arbitration containing a description in reasonable detail of (i) the nature of the claim, dispute or controversy it desires to arbitrate, and (ii) the remedy or remedies sought including Claimant's best current information as to the amount of money, if any, sought to be recovered. The arbitration shall be deemed commenced on the date Respondent receives the demand (the "Commencement Date").~~

~~(d) Within seven days after the Commencement Date, Respondent may send to Claimant any written responsive statement to the demand it wishes. Within that time period, Respondent shall send to Claimant or Claimant's counsel, by overnight courier, return receipt requested, a written demand for arbitration of any claims Respondent then wishes to arbitrate against Claimant, containing the same information as in an initial demand.~~

~~(e) Claimants and Respondents may freely amend, restate, clarify or supplement their claims in writing until a reasonable time, not less than 21 days, prior to the first arbitration hearing, except that no wholly new claim may be submitted after selection of the arbitrators without the arbitrators' consent.~~

~~(f) Any award, order or judgment pursuant to such arbitration shall be deemed final and may be entered and enforced in any state or federal court of competent jurisdiction located in the State of New York. Each party agrees to submit to the jurisdiction of any such court for purposes of the enforcement of any such award, order or judgment.~~

~~(g) Any award of damages pursuant to such arbitration shall be included in a written decision which shall state the reasons upon which the award was based, including all the elements involved in the calculation of any award of damages.~~

~~(h) Any arbitration proceeding hereunder shall be conducted on a confidential basis.~~

~~(i) Notwithstanding any other provision of this Agreement, each party shall have the right to apply to any court of competent jurisdiction for temporary injunctive or other preliminary relief.~~

~~(j) (1) There shall be no pre-hearing written interrogatories, written requests for admission, or discovery depositions. The arbitrator may require the parties to respond to limited and reasonable requests for production of documents from the opposing party.~~

~~(2) In considering the extent of pre-hearing document discovery to be permitted, the arbitrators shall consider that reduced time, expense and burden are principal reasons the parties have chosen to resolve their disputes through arbitration rather than court proceedings, and shall require pre-hearing document production only where necessary to avoid injustice. The arbitrator shall require that a party requesting pre-hearing production of documents shall reimburse the producing party for the costs of copying and for the time and fees of the producing party's employees and attorneys in locating, reviewing, organizing and copying requested documents.~~

~~(3) With the approval of the arbitrators, evidence depositions may be taken of witnesses who cannot be subpoenaed to testify at the hearing. The arbitrator may require advance disclosure by the parties of evidence to be offered at the hearing in order to avoid unfair surprise.~~

~~(k) No arbitration arising out of or relating to this Agreement shall include, by consolidation, joinder or in any other manner, any additional person not a party to this Agreement except by written consent containing a specific reference to this Agreement and signed by the Clearing Organizations. Any such written consent to arbitration involving an additional person or persons shall not constitute consent to arbitration of any dispute not described therein or with any person not named or described therein.~~

(k) Force Majeure. If the performance of this Agreement by either Party (other than the payment of any amounts due hereunder) is prevented, hindered, delayed or otherwise made impracticable by reason of any cause beyond a Party's reasonable control, including any flood, epidemic, pandemic, riot, fire, judicial or governmental action, labor dispute, failure or degradation of any third party system or service, or act of war or terrorism (each, a "Force Majeure Event"), that party shall be excused from such performance to the extent, including for the duration of time, that it is prevented, hindered or delayed by such Force Majeure Event. In the event a Party becomes aware of a Force Majeure Event that will affect its performance under this Agreement, it shall so notify the other Party as soon as reasonably practicable. The Parties shall thereafter work together to take reasonable steps to mitigate the effects of any inability to perform or any delay in performance, if practicable.

(l) Remedies Not Exclusive. No remedy conferred by any provision of this Agreement is intended to be exclusive of any other remedy, except as expressly provided in this Agreement, and each and every remedy shall be cumulative and shall be in addition to every other remedy given hereunder or now or hereafter existing in law or in equity or by statute or otherwise.

(m) No Third-Party Beneficiaries. This Agreement is binding upon, and shall inure to the benefit of, the Parties and their respective administrators, legal representatives, successors, and permitted assigns. The Parties agree that no provision of this Agreement is intended, expressly or by implication, to purport to confer a benefit or right of action upon a third party (whether or not in existence, and whether or not named, as of the date hereof).

other than Persons entitled to indemnification pursuant to Section 12, who are third party beneficiaries of Section 12 (and no other provisions) of this Agreement.

(n) Waiver of Jury Trial. EACH OF THE PARTIES HERETO HEREBY WAIVES TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY WITH RESPECT TO ANY LITIGATION DIRECTLY OR INDIRECTLY ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED BY THIS AGREEMENT.

[Remainder of page intentionally left blank. Signature page follows.]

IN WITNESS WHEREOF, the ~~parties hereto~~ Parties have caused this Agreement to be duly executed and delivered as of the date first above written.

FIXED INCOME CLEARING CORPORATION

By: _____

Print Name: _____

Title: _____

CHICAGO MERCANTILE EXCHANGE INC.

By: _____

Print Name: _____

Title: _____

EXHIBIT A

CME ELIGIBLE PRODUCTS

[CBT 26 2-year T-Note Futures](#)

[CBT 3YR 3-year T-Note Futures](#)

[CBT 25 5-Year T-Note Futures](#)

[CBT 21 10-Year T-Note Futures](#)

[CBT 17 U.S. Treasury Bond Futures](#)

[CBT TN Ultra Ten-Year T-Note Futures](#)

[CBT UBE Ultra U.S. Treasury Bond Futures](#)

[CBT TWE 20-Year U.S. Treasury Bond Futures](#)

[CBT 41 30-Day Federal Funds Futures](#)

[CME ED Eurodollar Futures](#)

[CME EM 1-Month Eurodollar Futures](#)

[CME SR1 One-Month SOFR Futures](#)

[CME SR3 Three-Month SOFR Futures](#)

EXHIBIT B

FICC ELIGIBLE PRODUCTS

“U.S. Treasury securities” which for purposes of this Exhibit B refers to Treasury notes and bonds.

APPENDIX A ~~*[amended June 2014]*~~~~Cross-Margining or Other Loss-Sharing Arrangements of CME:~~

Agreement	With or Without Priority Over this Agreement After Guaranty Payment is Made
CME/OCC/NYCC Cross-Margining Agreement dated June 7, 1993.	With priority.

~~Cross-Margining or Other Loss-Sharing Arrangements of FICC:~~

Agreement	With or Without Priority Over this Agreement After Guaranty Payment is Made
DTC/FICC/NSCC/OCC Multilateral Netting Contract and Limited Cross-Guaranty Agreement dated January 1, 2003.	With priority.
Portfolio margining arrangement between the FICC Government Securities Division and the FICC Mortgage-Backed Securities Division (upon SEC approval)	With priority.

APPENDIX B***Example of Disallowance Factor Schedule Applicable to CME Eligible Products and FICC Eligible Products***

The methodology for the conversion of Eurodollar Futures into Treasury Equivalents (TE) is described in Appendix C1.

Eurodollar TE Offset Classes 1-10 contain “conforming strips” associated with Rolling Years 1-10, respectively. “Conforming strips” are defined in Appendix C. Eurodollar Offset Classes 11-20 contain “**non**-conforming” strips associated with Rolling Years 1-10, respectively. Treasury Cash Offset Classes A-G and AA-GG are defined below.

<i>Read-ED Offset-Class Down</i>	A/AA	B/BB	C/CC	D/DD	E/EE	F/FF	G/GG
1	65.0%	45.0%	30.0%	35.0%	100.0%	100.0%	100.0%
2	65.0%	40.0%	25.0%	30.0%	30.0%	40.0%	100.0%
3	100.0%	40.0%	30.0%	30.0%	30.0%	35.0%	40.0%
4	100.0%	40.0%	30.0%	30.0%	30.0%	30.0%	40.0%
5	100.0%	100.0%	30.0%	30.0%	30.0%	30.0%	35.0%
6	100.0%	100.0%	35.0%	30.0%	30.0%	30.0%	35.0%
7	100.0%	100.0%	40.0%	30.0%	30.0%	30.0%	35.0%
8	100.0%	100.0%	40.0%	35.0%	30.0%	30.0%	30.0%
9	100.0%	100.0%	45.0%	40.0%	35.0%	30.0%	30.0%
10	100.0%	100.0%	50.0%	45.0%	40.0%	35.0%	30.0%
11	70.0%	50.0%	50.0%	50.0%	100.0%	100.0%	100.0%
12	70.0%	50.0%	50.0%	50.0%	50.0%	50.0%	100.0%
13	100.0%	50.0%	50.0%	50.0%	50.0%	50.0%	60.0%
14	100.0%	50.0%	50.0%	50.0%	50.0%	50.0%	60.0%
15	100.0%	100.0%	50.0%	50.0%	50.0%	50.0%	60.0%
16	100.0%	100.0%	50.0%	50.0%	50.0%	50.0%	60.0%
17	100.0%	100.0%	50.0%	50.0%	50.0%	50.0%	60.0%
18	100.0%	100.0%	50.0%	50.0%	50.0%	50.0%	60.0%
19	100.0%	100.0%	50.0%	50.0%	50.0%	50.0%	60.0%
20	100.0%	100.0%	50.0%	50.0%	50.0%	50.0%	60.0%

APPENDIX B (continued)**Example of Disallowance Factor Schedule Applicable to CBOT Eligible Products and FICC Eligible Products**

The methodology for the conversion of CBOT Futures into Treasury Equivalents (TE) is described in Appendix C2.

	A/AA	B/BB	C/CC	D/DD	E/EE	F/FF	G/GG	e/ee	f/ff
TU	100%	100%	25%	30%	35%	40%	100%	35%	40%
FV	100%	100%	30%	25%	25%	30%	40%	25%	30%
TY	100%	100%	40%	30%	25%	25%	30%	25%	25%
US	100%	100%	100%	40%	35%	30%	25%	35%	30%
DZ	100%	100%	30%	25%	25%	30%	40%	25%	30%
DQ	100%	100%	40%	30%	25%	25%	30%	25%	25%

APPENDIX B (Continued)**GME Eligible Products by Offset Class — Margin Rate Mappings**

GME Offset Classes	Description of Product	FICC Offset Classes For Margin Rate Comparison
1	Conforming Euro Dollar Strip—1 Year	B/BB
2	Conforming Euro Dollar Strip—2 Years	C/CC
3	Conforming Euro Dollar Strip—3 Years	D/DD
4	Conforming Euro Dollar Strip—4 Years	D/DD
5	Conforming Euro Dollar Strip—5 Years	E/EE
6	Conforming Euro Dollar Strip—6 Years	E/EE
7	Conforming Euro Dollar Strip—7 Years	E/EE
8	Conforming Euro Dollar Strip—8 Years	F/FF
9	Conforming Euro Dollar Strip—9 Years	F/FF
10	Conforming Euro Dollar Strip—10 Years	F/FF
11	Non-Conforming Euro Dollar Strip—1 Year	B/BB
12	Non-Conforming Euro Dollar Strip—2 Years	C/CC
13	Non-Conforming Euro Dollar Strip—3 Years	D/DD
14	Non-Conforming Euro Dollar Strip—4 Years	D/DD
15	Non-Conforming Euro Dollar Strip—5 Years	E/EE
16	Non-Conforming Euro Dollar Strip—6 Years	E/EE
17	Non-Conforming Euro Dollar Strip—7 Years	E/EE
18	Non-Conforming Euro Dollar Strip—8 Years	F/FF
19	Non-Conforming Euro Dollar Strip—9 Years	F/FF
20	Non-Conforming Euro Dollar Strip—10 Years	F/FF

CBOT Eligible Products*

*The delivery months for CBOT's futures are: March, June, September, and December.

~~Treasuries~~

“Two Year”	Offset Class TU: Two Year U.S. Treasury Note Futures contract and options thereon.
“Five Year”	Offset Class FV: Five Year U.S. Treasury Note Futures contract and options thereon.
“Ten Year”	Offset Class TY: Ten Year U.S. Treasury Note Futures contract and options thereon.
“U.S. Bond”	Offset Class US: Thirty Year U.S. Treasury Bond Futures contract and options thereon.

~~Agencies~~

“Five Year Agency”	Offset Class DZ: Five Year Agency Note Futures contracts that are Non-callable Fannie Mae Benchmark Notes or Freddie Mac Reference Notes
“Ten Year Agency”	Offset Class DQ: Ten Year Agency Note Futures contracts that are Non-callable Fannie Mae Benchmark Notes or Freddie Mac Reference Notes

APPENDIX B (continued)***FICC Eligible Products that are Treasuries -- by Offset Class***

FICC Offset Classes*	Description of Product	GME Offset Classes For Margin Rate Comparison
A AA	FICC netting-eligible Treasury securities with Remaining Maturity of: 1 day to 6 months +15 days. FICC GCF Repo [®] products of the same Remaining Maturity as Offset Class A	N/A
B BB	FICC netting-eligible Treasury securities with Remaining Maturity of: 6 months + 16 days to 1 year + 15 days. FICC GCF Repo products of the same Remaining Maturity as Offset Class B	1, 11
C CC	FICC netting-eligible Treasury securities with Remaining Maturity of: 1 year + 16 days to 2 years + 15 days. FICC GCF Repo products of the same Remaining Maturity as Offset Class C	2, 12

D	FICC netting-eligible Treasury securities with Remaining Maturity of: 2 years + 16 days to 4 years + 15 days.	3, 4, 13, 14
DD	FICC GCF Repo products of the same Remaining Maturity as Offset Class D	
E	FICC netting-eligible Treasury securities with Remaining Maturity of: 4 years + 16 days to 7 years + 15 days.	5, 6, 7, 15, 16, 17
EE	FICC GCF Repo products of the same Remaining Maturity as Offset Class E	
F	FICC netting-eligible Treasury securities with Remaining Maturity of: 7 years + 16 days to 15 years + 15 days.	8, 9, 10, 18, 19, 20
FF	FICC GCF Repo products of the same Remaining Maturity as Offset Class F	
G	FICC netting-eligible Treasury securities with Remaining Maturity of: 15 years + 16 days or greater	N/A
GG	FICC GCF Repo products of the same Remaining Maturity as Offset Class G	

~~*Each FICC Offset Class includes residual positions in the corresponding products that may result from cash (buy-sell) trades, repurchase and reverse repurchase agreements, when issued trading and auction awards. The residual positions may consist of current-day and/or forward settling trades. Products that may fall within the above remaining maturity ranges but are nonetheless **excluded** from cross-margining with CME pursuant to this Agreement are **STRIPS**.~~

APPENDIX B (continued)***FICC Eligible Products that are Agencies--by Offset Class***

FICC Offset Classes*	Description of Product
"Five Year Agency"	<p>Offset Class e: FICC netting-eligible securities (Agency Notes) with Remaining Maturity of: 4 years +16 days to 5 years +15 days.</p> <p>Offset Class ee: FICC GCF Repo products of the same Remaining Maturity as Offset Class e</p>
"Ten Year Agency"	<p>Offset Class f: FICC netting-eligible securities (Agency Notes and Bonds) with Remaining Maturity of: 7 years +16 days to 10 years +15 days.</p> <p>Offset Class ff: FICC GCF Repo products of the same Remaining Maturity as Offset Class f</p>

~~*Each FICC Offset Class includes residual positions in the corresponding products that may result from cash (buy-sell) trades, repurchase and reverse repurchase agreements, when issued trading and auction awards. The residual positions may consist of current day and/or forward settling trades. Products that may fall within the above remaining maturity ranges but are nonetheless **excluded** from cross-margining with CME pursuant to this Agreement are **STRIPS**.~~

APPENDIX C1

CME CALCULATION PROCESS TO CONVERT EURODOLLAR FUTURES AND OPTIONS INTO TREASURY CASH EQUIVALENTS AND TO DETERMINE THE APPLICABLE CME OFFSET CLASSES

1. ~~CME shall convert all futures and options positions to delta equivalents. The delta equivalent position of a futures contract position is the number of contracts in that position. CME shall convert all options to delta equivalents using each option's SPAN delta. The delta equivalent of an options position is obtained by multiplying the number of contracts underlying the options positions by the SPAN delta value of that options position. The SPAN delta value is a probability weighted delta value. The SPAN delta value used in the calculation process of this Appendix shall be calculated in the same manner that CME uses in CME's internal spreading processes.~~
2. ~~CME shall net the delta equivalents such that the net delta equivalents of each quarterly contract expiration are all on the same side of the market, i.e., all long or all short. CME will combine delta equivalents into composite strips. CME shall then calculate the Figure of Merit of each strip. A Conforming Strip shall be a strip whose Figure of Merit is greater than or equal to the Critical Value. A Non-Conforming Strip shall be a strip whose Figure of Merit is less than the Critical Value. The Rolling Year (RY) of the strip is the rolling year of the most long-dated contract in the strip. Rolling years range from 1 to 10.~~
3. ~~The Critical Value is an amount to be agreed upon by both parties. As market conditions warrant, the Critical Value may be changed from time to time by mutual consent of CME and FICC.~~
4. ~~The Figure of Merit is:~~

$$FOM = \frac{2}{N(D+1)} \times \sum_{i=1}^D n_i q_i$$

where FOM is the Figure of Merit, N is the total number of delta equivalents in the strip, D is the depth of the strip, n is the number of delta equivalents in the ith expiry month, and q is the serial number of the ith expiry quarter (q ranges from 1 to a maximum of 40). The depth of a strip is the serial number of the expiry quarter of the most deferred contract in the strip. The Treasury Equivalent (TE) of the jth long strip is:

$$TE_j = (\$1,000,000 \times 0.25 \times N) / RY_j$$

APPENDIX C1 (Continued)*Example of Figure-of-Merit Calculations*

Summary:

Quantity	Strip 1	Strip 2
TE, Treasury Equivalent	\$10MM 2-Year	\$10MM 2-Year
N, Number of Delta Equivalents	80	80
D, Depth	8	8
FOM	.99	.49
Status (assuming a .90 critical value)	Conforming	Non-Conforming
Offset Class	2	12

Details:

Expiry	Quarter Serial No.	Contents	Net Delta Eqv.	Delta-X Quarter
DEC 00	1	20-DEC-00	20.0	20.0
MAR 01	2		0.0	0.0
JUN-01	3	Futures: 5 JUN-01 Options: 11 JUN-01, (DELTA=.5), ————— 4 JUN01 (DELTA=.25)	11.5	34.5
SEP-01	4	10-SEP-01	10.0	40.0
DEC 01	5	Futures: 8 DEC-01 Options: 1 DEC-01, (DELTA=.5)	8.5	42.5
MAR 02	6		0.0	0.0
JUN-02	7	20 JUN-02	20.0	140.0
SEP-02	8	10-SEP-02	<u>10.0</u>	<u>80.0</u>
		TOTAL	80.0	357.0

$$\text{FOM} = [(8+1) \times 2 / (80)] \times 357.0 = 0.992$$

APPENDIX C1 (Continued)*Example of Figure-of-Merit Calculations*

Summary:

Quantity	Strip 1	Strip 2
TE, Treasury Equivalent	\$10MM 2-Year	\$10MM 2-Year
N, Number of Delta Equivalents	80	80
D, Depth	8	8
FOM	.99	.49
Status	Conforming	Non-Conforming
Offset Class	2	12

Details:

Expiry	Quarter Serial No.	Contents	Net Delta Eqv.	Delta X Quarter
DEC-00	1	40 DEC-00	40	40.0
MAR-01	2	20 MAR-01	20	40.0
JUN-01	3	10 JUN-01	10	30.0
SEP-01	4		0	0.0
DEC-01	5	5 DEC-01	5	25.0
MAR-02	6		0	0.0
JUN-02	7		0	0.0
SEP-02	8	5 SEP-02	5	40.0
		TOTAL	80.0	175.0

$$\text{FOM} = [(8+1) \times 2 / (80)] \times 175.0 = 0.486$$

~~APPENDIX C2~~

~~Conversion of Futures Contracts to Treasury Equivalents~~

~~CME and FICC shall consider cross margining certain futures contracts and options on those futures contracts against certain offsetting cash Treasury products. Contract eligibility is specified in Appendix B. To facilitate cross margining with FICC, CME shall convert CME's residual futures and options positions to Treasury Equivalents according to the methods described in this Appendix. Each residual position may consist of one and only one eligible futures contract type and options on that futures contract type. For purposes of this Agreement, futures contracts of a certain type have the same specifications for deliverable instruments, quantity, and exchange, but may vary in their specified delivery months.~~

~~The Treasury Equivalent (TE) of a residual futures and/or options position shall be computed according to the following formula:~~

~~where~~

$$~~TE = TNCE \times NSC \times S \times C~~$$

~~TNCE = Total number of contract equivalents.~~

~~NSC = The contract size of the underlying futures contract type, in US dollars.~~

~~S = Settlement price of the underlying futures contract, expressed as a decimal.~~

~~C = Conversion factor.~~

~~To determine the TNCE, CME shall use CME's standard and customary procedures for netting and for converting options into delta equivalents. Delta equivalents with respect to futures contracts shall be equal to the number of contracts. Delta equivalents with respect to options contracts shall be equal to the product of the option delta and the number of underlying contracts. The contract size, as specified by CME, shall be the standard contract size. The settlement price shall be the settlement price of the futures contract expiring in the nearest active delivery month. The conversion factor used upon the implementation of the cross margining program shall be one (1). From time to time, CME and FICC may change the conversion factor by mutual agreement.~~

APPENDIX D

**FIXED INCOME CLEARING CORPORATION / CHICAGO MERCANTILE
EXCHANGE INC. CROSS-MARGINING PARTICIPANT AGREEMENT
(COMMON MEMBER) (referred to as the “agreement”)**

The undersigned ("Member") is a Government Securities Division ~~netting member~~ ("GSD") Netting Member of Fixed Income Clearing Corporation ("FICC") and a clearing member of Chicago Mercantile Exchange Inc. ("CME"). The term "Clearing Organization" means either FICC or CME. Member hereby elects to become a Cross-Margining Participant ~~in for purposes of~~ the Cross-Margining Arrangement between FICC and CME. and the Rules. Capitalized terms used in this agreement that are undefined shall have the meanings given to them in the Cross-Margining Agreement.

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Member agrees to be bound by the ~~FICC~~ GSD Rules and the CME Rules applicable to Netting Members, Clearing Members and Cross-Margining Participants and by the provisions of the Cross-Margining Agreement between FICC and CME (the "Cross-Margining Agreement"), as any of the foregoing may be in effect from time to time.

Without limiting the generality of the foregoing, ~~Member agrees that all of its positions, margin deposits and other property in the possession or subject to the control of FICC shall be subject to the security interest and right of setoff of FICC as set forth in FICC's Rules and in the Cross-Margining Agreement, and Member agrees that all of its positions, margin deposits and other property in the possession or subject to the control of CME shall be subject to the security interest and right of setoff of CME as set forth in CME's Rules and in the Cross-Margining Agreement. Without limiting the generality of the foregoing, Member agrees that each of FICC and CME has a security interest in the Aggregate Net Surplus as security for the Reimbursement Obligation and the Maximization Reimbursement Obligation, and has all rights of a secured creditor under the New York Uniform Commercial Code.~~ Member unconditionally promises immediate payment of any ~~Reimbursement Obligation or Maximization~~ payment or reimbursement obligations (including the Reimbursement Obligation) to a Clearing Organization ~~as set forth in~~ arising under the Cross-Margining Agreement or the Rules in respect of the Cross-Margining Accounts. Member further agrees that, if a Clearing Organization has declared a Default Event with respect to Member, then the other Clearing Organization may ~~declare the Member to be in default~~ exercise any rights under its Rules ~~(such default~~ to terminate, suspend or otherwise cease to act for or limit the activities of Member (such actions also shall be considered a "Default Event").

Member hereby pledges, as security for its present and future payment and reimbursement obligations to FICC and CME arising from Member's Cross-Margining Accounts (including, without limitation, the Reimbursement Obligations), and grants to each Clearing Organization a first priority continuing security interest in, lien on and right of set-off against all of its positions, margin deposits or other property held by or subject to the control of either Clearing Organization including any and all Net Gains (and, in the case of FICC, all Actual Deposits) in respect of the Member's Cross-Margining Accounts and the proceeds in respect thereof (such positions, margin deposits, property and proceeds, the "Collateral"). Without limiting the generality of the foregoing, Member agrees that (i) the rights of each Clearing Organization set forth in the preceding sentence are in addition to any other rights arising out of the New York Uniform Commercial Code or other

statute, common law, or governmental regulation, or under their respective Rules, (ii) Member will execute, deliver, file and record any financing statement, specific assignment or other document and take any other action necessary or desirable and reasonably requested by FICC or CME to create, preserve, perfect or validate the security interest or lien granted in this paragraph, to enable such Clearing Organization to exercise or enforce its rights under this agreement, and (iii) Member will promptly give notice to the Clearing Organizations of, and defend against, any suit, action, proceeding or lien that involves or could adversely affect the security interest and lien granted by Member in this agreement.

Member agrees that Clearing Data (as hereinafter defined) regarding ~~the~~ Member may be disclosed by FICC to CME and by CME to FICC. “Clearing Data” means transactions and other data that is received by FICC or CME in its clearance and/or settlement processes, and such data, reports or summaries thereof which may be produced as a result of processing such data, including data regarding Member's positions, margin requirements and deposits.

Neither FICC nor CME guarantees to Member that the calculation of the ~~Cross-Margining~~Margin Reduction pursuant to the Cross-Margining Agreement will yield any, or the highest possible, ~~Cross-Margining~~Margin Reduction.

Member represents and warrants to and for the benefit of the Clearing Organizations that: (i) it has full power and authority to execute and deliver this agreement and to perform its obligations hereunder; (ii) its execution and delivery of this agreement and the performance of its obligations hereunder have been duly authorized by all requisite action; (iii) all authorizations of and exemptions, actions, approvals and consents by, and all notices to or filings with, any governmental or other authority or other persons that are necessary to enable it to execute and deliver this agreement and to perform its obligations hereunder have been obtained or made and are in full force and effect, and it has complied with all of the conditions thereof; (iv) this agreement has been duly executed and delivered by it; (v) this agreement is a legal, valid, and binding obligation on its part, enforceable against it in accordance with its terms; ~~and~~ (vi) its execution, delivery and performance of this agreement do not violate or conflict with any law, regulation, rule of self-regulatory organization or judicial or governmental order or decree to which it is subject, any provision of its constitutional or governing documents, or any term of any agreement or instrument to which it is a party, or by which its property or assets is bound or affected; (vii) it has the power to grant, and has granted, to each Clearing Organization a first priority continuing security interest in and lien on the Collateral and has taken all necessary actions to authorize the granting of such security interest and lien; (viii) it is the sole owner of or otherwise has the right to transfer all Collateral transferred to each Clearing Organization pursuant to this agreement, the Cross-Margining Agreement and the Rules, free and clear of any security interest, lien, encumbrance or other restrictions (other than any security interest or lien granted or created pursuant to this agreement or any other agreement entered into in connection with the Cross-Margining Agreement and the Rules); and (ix) all transactions and positions in Member's Cross-Margining Accounts will be solely for Member's own account and/or for the account of Non-Customers. The term “Non-Customer” means any person that is an officer, director, partner or other related person of the Member (x) that is not a “customer” within the meaning of Rules 8c-1 or 15c2-1 promulgated by the SEC under the Exchange Act and (y) whose account on the records of the Member is a “proprietary account” within the meaning of Rule 1.3 promulgated by the CFTC under the CEA. The representations and warranties in this paragraph shall be effective as

of the date of this agreement and the date of each transaction or transfer relating to this agreement or the Cross-Margining Agreement.

Without limiting any provision of ~~FICC's~~the GSD Rules, ~~the~~CME's Rules or any other agreement between Member and FICC or CME, any transfer by the Member of any rights it may have in the ~~Aggregate-Net Surplus Gain~~ (or any component thereof) shall be null and void and, in any event, subject to the prior payment in full of all ~~Reimbursement Obligations and Maximization payment and reimbursement obligations (including the Reimbursement Obligations~~Obligation) under the Cross-Margining Agreement.

This ~~Agreement~~agreement shall be effective, when accepted by both FICC and CME. ~~This Agreement~~Member shall be bound by the current terms of this agreement as well as any amended terms of which it has received notice. This agreement may be terminated by the Member upon two Business Days' written notice to FICC and CME and such termination shall be effective upon written acknowledgement by both FICC and CME; provided, however, notwithstanding any such termination, this agreement shall remain effective unless and until Member satisfies its Stand-alone Margin Requirement at each Clearing Organization. Either FICC or CME may amend or terminate this agreement immediately upon notice to the Member. Notwithstanding the previous two sentences, the Member's obligations under this ~~Agreement~~agreement and the Cross-Margining Agreement shall survive the termination of this ~~Agreement. Capitalized terms used in this Agreement that are undefined shall have the meanings given to them in the Cross Margining Agreement~~agreement.

This ~~Agreement~~agreement may be executed in counterparts, each of which shall be deemed to be an original, and all which taken together shall be deemed one and the same agreement. This ~~Agreement~~agreement shall be governed by and construed in accordance with the laws of the State of New York .

Member

Name of Member: _____

By: _____

Print Name: _____

Title: _____

Accepted By:

Fixed Income_ Clearing Corporation

By: _____

Print Name: _____

Title: _____

Date: _____

Chicago Mercantile Exchange Inc.

By: _____

Print Name: _____

Title: _____

Date: _____

This ~~Agreement~~agreement is dated as of _____.

[To be filled in upon acceptance of ~~FICC~~CME and ~~CME~~FICC]

APPENDIX ~~E~~B

FIXED INCOME CLEARING CORPORATION / CHICAGO MERCANTILE EXCHANGE INC. CROSS-MARGINING PARTICIPANT AGREEMENT (AFFILIATED MEMBERS) (referred to as the “agreement”)

The undersigned “FICC Member” is a Government Securities Division ~~netting member~~ “GSD”) Netting Member of Fixed Income Clearing Corporation (“FICC”). The undersigned “CME Member” is a clearing member of Chicago Mercantile Exchange Inc. (“CME”); “CME”). The FICC Member and CME Member are each referred to herein as a “Member” and together as the “Members.” The term “Clearing Organization” means either FICC or CME. FICC Member hereby elects to become a Cross-Margining Participant of FICC, and CME Member hereby elects to become a Cross-Margining Participant of CME, for purposes of the Cross-Margining Arrangement between FICC and CME, ~~and the Rules.~~ Capitalized terms used in this agreement that are undefined shall have the meanings given to them in the Cross-Margining Agreement.

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, FICC Member agrees to be bound by the ~~FICC~~GSD Rules applicable to Netting Members, Clearing Members and Cross-Margining Participants; CME Member agrees to be bound by the CME Rules applicable to Clearing Members and Cross-Margining Participants; and FICC Member and CME Member both agree to be bound by the provisions of the Cross-Margining Agreement between FICC and CME (the “Cross-Margining Agreement”), as any of the foregoing may be in effect from time to time.

Without limiting the generality of the foregoing, ~~FICC Member agrees that all of its positions, margin deposits and other property in the possession or subject to the control of FICC shall be subject to the security interest and right of setoff of FICC as set forth in the FICC Rules and the Cross-Margining Agreement, and CME Member agrees that all of its positions, margin deposits and other property in the possession or subject to the control of CME shall be subject to the security interest and right of setoff of CME as set forth in CME’s Rules and the Cross-Margining Agreement.~~ each Member unconditionally promises immediate payment of any of its and its Affiliate’s payment or reimbursement obligations (including the Reimbursement Obligation) to a Clearing Organization arising under the Cross-Margining Agreement or the Rules in respect of the Cross-Margining Accounts. Each Member further agrees to be jointly and severally liable to the Clearing Organizations for any margin, settlement or other obligation arising from transactions or positions in the Members’ Cross-Margining Accounts. The Members further agree that, if a Clearing Organization has declared a Default Event with respect to one Member, then the other Clearing Organization may exercise any rights under its Rules to terminate, suspend or otherwise cease to act for or limit the activities of the other Member (such actions also shall be considered a “Default Event”).

~~Without limiting the generality of the foregoing, FICC Member and CME Member agree that each of FICC and CME has a security interest in the Aggregate Net Surplus as security for the Reimbursement Obligation and the Maximization Reimbursement Obligation, and has all rights of a secured creditor under~~ FICC Member hereby pledges, on behalf of itself and its Affiliate, as security for the present and future payment and reimbursement obligations of either Member to

FICC and CME arising from the Members' Cross-Margining Accounts (including, without limitation, the Reimbursement Obligation), and grants to FICC a first priority continuing security interest in, lien on and right of set-off against all of its positions, margin deposits or other property held by or subject to the control of FICC including any and all Net Gains and all Actual Deposits in respect of the Members' Cross-Margining Accounts and the proceeds in respect thereof (such positions, margin deposits, property and proceeds, the "Collateral"). CME Member hereby pledges, on behalf of itself and its Affiliate, as security for the present and future payment and reimbursement obligations of either Member to CME and FICC arising from the Members' Cross-Margining Accounts (including, without limitation, the Reimbursement Obligation), and grants to CME a first priority continuing security interest in, lien on and right of set-off against all of its positions, margin deposits or other property held by or subject to the control of CME including any and all Net Gains in respect of the Members' Cross-Margining Accounts and the proceeds in respect thereof (such positions, margin deposits, property and proceeds, also referred to as the "Collateral"). Without limiting the generality of the foregoing, each Member agrees that (i) the rights of each Clearing Organization set forth in the preceding sentences are in addition to any other rights arising out of the New York Uniform Commercial Code. ~~FICC Member and CME Member each unconditionally promises immediate payment of any Reimbursement Obligation and Maximization Reimbursement Obligation to a Clearing Organization as set forth in the Cross-Margining Agreement. FICC Member and CME Member further agree that, (i) if FICC has declared a Default Event with respect to FICC Member, then CME may declare CME Member to be in default under its Rules (such default also shall be considered a "Default Event") and (ii) if CME has declared a Default Event with respect to CME Member, then FICC may declare FICC Member to be in default under its Rules (such default also shall be considered a "Default Event").~~ or other statute, common law, or governmental regulation, or under their respective Rules, (ii) Member will execute, deliver, file and record any financing statement, specific assignment or other document and take any other action necessary or desirable and reasonably requested by FICC or CME to create, preserve, perfect or validate the security interest or lien granted in this paragraph, to enable such Clearing Organization to exercise or enforce its rights under this agreement, and (iii) Member will promptly give notice to the Clearing Organizations of, and defend against, any suit, action, proceeding or lien that involves or could adversely affect the security interest and lien granted by Member in this agreement.

FICC Member and CME Member agree that Clearing Data (as hereinafter defined) regarding Member may be disclosed by FICC to CME and by CME to FICC. "Clearing Data" means transactions and other data that is received by FICC or CME in its clearance and/or settlement processes, and such data, reports or summaries thereof, which may be produced as a result of processing such data, including data regarding a Member's positions, margin requirements and deposits.

Neither FICC nor CME guarantees to FICC Member or CME Member that the calculation of the methodology used to determine the ~~Cross-Margin~~ Reduction pursuant to the Cross-Margining Agreement will yield any, or the highest possible, ~~Cross-Margining~~ Margin Reduction for either FICC Member or CME Member.

Each of FICC Member and CME Member represents and warrants to and for the benefit of the Clearing Organizations that: (i) it has full power and authority to execute and deliver this agreement and to perform its obligations hereunder; (ii) its execution and delivery of this

agreement and the performance of its obligations hereunder have been duly authorized by all requisite action; (iii) all authorizations of and exemptions, actions, approvals and consents by, and all notices to or filings with, any governmental or other authority or other persons that are necessary to enable it to execute and deliver this agreement and to perform its obligations hereunder have been obtained or made and are in full force and effect, and it has complied with all of the conditions thereof; (iv) this agreement has been duly executed and delivered by it; (v) this agreement is a legal, valid, and binding obligation on its part, enforceable against it in accordance with its terms; ~~and~~ (vi) its execution, delivery and performance of this agreement do not violate or conflict with any law, regulation, rule of self-regulatory organization or judicial or governmental order or decree to which it is subject, any provision of its constitutional or governing documents, or any term of any agreement or instrument to which it is a party, or by which its property or assets is bound or affected; (vii) it has the power to grant, and has granted, to the Clearing Organization of which it is a Clearing Member a first priority continuing security interest in and lien on the Collateral and has taken all necessary actions to authorize the granting of such security interest and lien; (viii) it is the sole owner of or otherwise has the right to transfer all Collateral transferred to the Clearing Organization of which it is a Clearing Member pursuant to this agreement, the Cross-Margining Agreement and the Rules, free and clear of any security interest, lien, encumbrance or other restrictions (other than any security interest or lien granted or created pursuant to this agreement or any other agreement entered into in connection with the Cross-Margining Agreement and the Rules); and (ix) all transactions and positions in the Member's Cross-Margining Account at the Clearing Organization of which it is a member will be solely for its own account, the account of its Affiliate or the account of a Non-Customer. The term "Non-Customer" means any person that is (x) an officer, director, partner or other related person of the FICC Member that is not a "customer" of the FICC Member within the meaning of Rules 8c-1 or 15c2-1 promulgated by the SEC under the Exchange Act and (y) an officer, director, partner or other related person of the CME Member whose account on the records of the CME Member is a "proprietary account" within the meaning of Rule 1.3 promulgated by the CFTC under the CEA. The representations and warranties in this paragraph shall be effective as of the date of this agreement and the date of each transaction or transfer relating to this agreement or the Cross-Margining Agreement.

Each of FICC Member and CME Member further represents and warrants to FICC and CME that they are Affiliates of one another as defined in the Cross-Margining Agreement. FICC Member and CME Member acknowledge and agree that they will be treated as Cross-Margining Affiliates for purposes of the Cross-Margining Arrangement and that, as a result, a default by FICC Member to FICC may result in a loss to CME Member, and a default by CME Member to CME may result in a loss to FICC Member.

Without limiting any provision of ~~FICCGSD's~~ Rules, ~~the~~ CME's Rules or any other agreement between FICC Member and/or CME Member and FICC or CME, any transfer by the FICC Member or the CME Member of any rights it may have in the ~~Aggregate-Net Surplus Gain~~ (or any component thereof) shall be null and void and, in any event, subject to the prior payment in full of all ~~Reimbursement Obligations and Maximization~~ payment and reimbursement obligations (including the Reimbursement Obligations Obligation) under the Cross-Margining Agreement.

This ~~Agreement~~agreement shall be effective, when accepted by both FICC and CME. ~~This Agreement~~Each Member shall be bound by the current terms of this agreement as well as any amended terms of which it has received notice. This agreement may be terminated by FICC Member or CME Member upon two Business Days' written notice to FICC and CME and such termination shall be effective upon written acknowledgement by both FICC and CME; provided, however, notwithstanding any such termination, this agreement shall remain effective unless and until Member satisfies its Stand-alone Margin Requirement at each Clearing Organization. Either FICC or CME may amend or terminate this ~~Agreement~~agreement immediately upon notice to FICC Member and CME Member. Notwithstanding the previous two sentences, the FICC Member's and the CME Member's obligations under this ~~Agreement~~agreement and the Cross-Margining Agreement shall survive the termination of this agreement. ~~Capitalized terms used in this agreement that are undefined shall have the meanings given to them in the Cross-Margining Agreement.~~

This ~~Agreement~~agreement may be executed in counterparts, each of which shall be deemed to be an original, and all of which taken together shall be deemed one and the same agreement. This ~~Agreement~~agreement shall be governed by and construed in accordance with the laws of the State of New York.

FICC Member

CME Member

Name of Member: _____
 Member: _____

Name _____ of _____

By: _____

By: _____

Print Name: _____

Print Name: _____

Title: _____

Title: _____

Print Name: _____

Title: _____

Title: _____

Accepted By:

Fixed Income Clearing Corporation

Chicago Mercantile Exchange Inc.

By: _____ **By:** _____
_____ **By:** _____

Print Name: _____ **Print**
Name: _____

Title: _____ **Title:** _____

Date: _____ **Date:** _____

_____ **Title:** _____

Date: _____ **Date:** _____

This ~~Agreement~~agreement is dated as of

_____.

[To be filled in upon acceptance of CME and FICC.]

APPENDIX F**Methodology for Allocation of Margin Based on Order of Increasing Disallowances****Step 1: FICC's Residual Positions, Residual Margin and Applicable Residual Margin**

<u>Offset Class</u>	<u>Position</u>	<u>FICC Rate</u>	<u>FICC Residual Margin</u>	<u>As if CME Rate</u>	<u>As if CME Margin</u>
C	\$1,000,000 L	0.30%	\$ 3,000	0.30%	\$ 3,000
D	\$2,000,000 L	0.50%	10,000	0.50%	10,000
B	\$3,000,000 L	0.15%	4,500	0.15%	4,500
	\$6,000,000		\$17,500		\$17,500

Lower Rate App. Resid. Margin

0.30%	3,000
0.50%	10,000
0.15%	4,500
	\$17,500

Step 2: COs' Residual Positions, Residual Margin and Applicable Residual Margin

<u>Offset Class</u>	<u>Position</u>	<u>CO Rate</u>	<u>CO Residual Margin</u>
CME 10	(\$5,000,000) S	0.40%	\$(20,000)
CME 02	(\$3,000,000) S	0.50%	(15,000)
CO 01	(\$3,000,000) S	0.20%	(6,000)
	(\$11,000,000)		\$(41,000)

<u>Offset Class</u>	<u>As if FICC Rate</u>	<u>As if FICC Margin</u>	<u>Lower Rate</u>	<u>App. Resid. Margin</u>
F	0.935%	\$(46,750)	0.40%	\$(20,000)
C	0.30%	(9,000)	0.30%	(9,000)
B	0.15%	(4,500)	0.15%	(4,500)
		\$(60,250)		\$(33,500)

Step 3: Allocation Based on Increasing Disallowance Factors (1)

(1) Factors are not actual, but are hypothetical for purposes of this illustration. In this example, there is no minimum margin factor.

Pairs ————— Disallowance

FICC B — CO 01	20%
FICC C — CME 02	25%
FICC D — CME 02	30%
FICC D — CME 10	40%
FICC C — CO 01	50%
FICC C — CME 10	50%
FICC B — CME 10	50%
FICC B — CME 02	50%
FICC D — CME 10	50%

Step 4: FICC Computes Applicable Residual Margin Amount Used for Each Pair of Offset Classes Based on Allocation Using the Lowest Disallowance Factors First

Round #1

20%			
(FICC B — CO 01) App. Resid. Margin			
Offset Class	App. Resid. Margin	Used	Remaining
FICC C	3,000		3,000
FICC D	10,000		10,000
FICC B	4,500	(4,500)	0
CME 10	(20,000)		(20,000)
CME 02	(9,000)		(9,000)
CO 01	(4,500)	4,500	0

Round #2

25%			
(FICC C — CME 02) App. Resid. Margin			
Offset Class	App. Resid. Margin	Used	Remaining
FICC C	3,000	(3,000)	0
FICC D	10,000		10,000
FICC B	0		0
CME 10	(20,000)		(20,000)
CME 02	(9,000)	3,000	(6,000)
CO 01	0		0

Round #3

Offset Class	30%		App. Resid. Margin Remaining
	App. Resid. Margin Remaining	(FICC D CME 02) Used	
FICC C	0		0
FICC D	10,000	(6,000)	4,000
FICC B	0		0
CME 10	(20,000)		(20,000)
CME 02	6,000	6,000	0
CO 01	0		0

Round #4

Offset Class	40%		App. Resid. Margin Remaining
	App. Resid. Margin Remaining	(FICC D CME 10) Used	
FICC C	0		0
FICC D	4,000	(4,000)	0
FICC B	0		0
CME 10	(20,000)	4,000	(16,000)
CME 02	0		0
CO 01	0		0

Step 5: Summary of Information

Dis. Categ.	App. Resid. Marg. Used	Amount Disallowed	Margin Offset	Clearing Org.
20%	4,500	900	3,600	CO
25%	3,000	750	2,250	CME
30%	6,000	1,800	4,200	CME
40%	4,000	1,600	2,400	CME
50%				N/A
	17,500	5,050	12,450	

Summary of Results

	FICC	CME 10	CME 02	CO 01	Total COs
(a) Margin					
Submitted	\$17,500	20,000	15,000	6,000	41,000
Applicable					
Resid. Marg.					
Available	17,500	20,000	9,000	4,500	33,500
(b) Margin					
Used (in Offset (in CME or CO terms)	17,500	4,000	15,000	6,000	25,000
(c) Margin					
Unused		16,000			16,000
Margin Offset	12,450	2,400	6,450	3,600	12,450
(d) Margin					
Disallowed	5,050	1,600	8,550	2,400	12,550
(e) Cash Equivalent					
Used (%)	100%	20%	100%	100%	
Cash Equivalent Used (Amt.)	6,000,000	1,000,000	3,000,000	3,000,000	7,000,000

APPENDIX G
COMPUTATION OF CROSS-MARGINING REDUCTION

Step 1 **INITIAL MARGIN REQUIREMENT (PRE CROSS-MARGINING).**

CME Residual Position	CME Margin Rate	CME Long Residual Margin Amount in the Absence of Cross-Margining
<i>Long - 600 Eurodollar contracts expiring in December 2004</i>	<i>\$500 per contract</i>	<i>\$300,000 (600 contracts* \$500)</i>

CO A Residual Position	CO A Margin Rate	CO A Long Residual Margin Amount in the Absence of Cross-Margining
<i>Long - 100 T-Note contracts expiring in December 2004 - 5-year 6% Notes</i>	<i>\$700 per contract</i>	<i>\$70,000 (100 contracts* \$700)</i>

Assumption:

FICC Residual Position	FICC Margin Rate	FICC Short Residual Margin Amount in the Absence of Cross-Margining
<i>Short \$10,000,000 - Class B</i>	<i>0.625%</i>	<i>\$62,500</i>

APPENDIX G (Continued)

COMPUTATION OF CROSS-MARGINING REDUCTION

Step 2 **CONVERT THE RESIDUAL FUTURES POSITION INTO A CASH EQUIVALENT POSITION.**

CME Residual Position	Settlement Price	Conversion	Cash Equivalent Position
600 Eurodollar contracts expiring in December 2004	95	(Number of contracts) X (notional value) X (1/4) X (1/years to expiration)	\$30,000,000

CO A Residual Position	Settlement Price	Conversion	Cash Equivalent Position
100 T-Note contracts expiring in December 2004 - 5-year 6% Notes)	100	(Settlement price) X (number of contracts) x (contract size) x (conversion factor)	\$10,000,000

Step 3 **CME REPORTS DATA TO FICC**

CME reports:

- FICC Account ID..... 9738
- Source Account ID..... XYYY
- Offset class..... CME 05
- Side of the Market..... Long
- Scan Range..... \$500
- Scan Risk..... \$503
- Residual Number of Deltas 300
- Cash Equivalent \$30,000,000
- Residual Margin Amount \$300,000

APPENDIX G (Continued)

COMPUTATION OF CROSS-MARGINING REDUCTION

Step 4:

~~FICC CALCULATES THE EFFECTIVE MARGIN RATE AND DERIVES THE APPLICABLE RESIDUAL MARGIN AMOUNT USING THE LOWER OF FICC'S OR CME'S MARGIN RATE.~~

Cash Equivalent Position	CME Effective Margin Rate	FICC Internal Margin Rate	Applicable Long Residual Margin Amount
\$30,000,000 in Offset class CME05	1.0%	0.625%	\$187,500 = (Cash Equivalent Position) X (Lower Margin Rate) (\$30,000,000) X (0.625%)

~~CALCULATE THE APPLICABLE RESIDUAL LONG MARGIN AMOUNT USING THE LOWER OF FICC'S OR CO A MARGIN RATE.~~

Cash Equivalent Position	CO A Effective Margin Rate	FICC Internal Margin Rate	Applicable Long Residual Margin Amount
\$10,000,000 in Offset class C	0.70%	0.625%	\$62,500 = (Cash Equivalent Position) X (Lower Margin Rate) (\$10,000,000) X (0.625%)

APPENDIX G (Continued)

COMPUTATION OF CROSS-MARGINING REDUCTION

STEP 5

CALCULATE THE PROPORTIONAL MARGIN ALLOCATION BASED ON APPLICABLE RESIDUAL MARGIN AMOUNT AVAILABLE TO FICC.

NOTE: ALLOCATION BY PRORATION IS ONLY NECESSARY WHEN FICC DOES NOT HAVE SUFFICIENT MARGIN AVAILABLE TO FULLY ABSORB ALL MARGIN PRESENTED TO IT.

▪ Potential Offsets:

- FICC Offset Class Available: B (Short)
- CME Offset Class Available: 5 (Long)
- CO A Offset Class Available: C (Long)

▪ Options for Offset in Priority Order

- FICC B vs. CME 5.....30% disallowance
- FICC B vs. CO A C.....30% disallowance

▪ Since the disallowance factors are equal, the positions presented to FICC by both CME and CO-A are equally correlated.

▪ FICC's position is prorated based on the amounts computed by FICC as "Applicable".

▪ This hypothetical example assumes there is no minimum margin factor.

Total Applicable Residual Margin Amount	CME Applicable Residual Margin Amount	CO A Applicable Residual Margin Amount	Proportion Allocable to CME	Proportion Allocable to CO A
\$250,000 : all in the 30% category	\$187,500	\$62,500	75%	25%

Step 6

CALCULATE THE FICC RESIDUAL POSITION AND MARGIN AMOUNT ALLOCABLE TO CME AND CO A

FICC Residual Position	FICC's Internal Margin Rate	FICC Residual Margin Amount	Residual Margin Amount Allocable to CME (at 75%)	FICC Residual Position Allocable to CME (at 75%)
Short \$10,000,000	0.625%	Short \$62,500	\$46,875	\$7,500,000

FICC Residual Position	FICC's Internal Margin Rate	FICC Residual Margin Amount	Margin Amount Allocable to CO A (at 25%)	FICC Residual Position Allocable to CO A (at 25%)
Short \$10,000,000	0.625%	Short \$62,500	\$15,625	2,500,000

STEP 7 — FICC REPORTS RESULTS TO CME

Repeated Information from the inbound file:

- FICC Account ID..... 9738
- Source Account ID..... XYYY
- Offset class..... CME 05
- Price Scan Range..... \$500
- Scan Risk..... \$503
- Side of the Market..... Long
- Residual Number of Deltas 300
- Cash Equivalent \$30,000,000
- Residual Margin Amount \$300,000

FICC Class ID :

- Residual Margin Used..... 75,000
- Residual Margin Unused..... 225,000
- Cash Equivalent Used..... 7,500,000
- Cash Equivalent Unused..... 22,500,000
- Margin Disallowed..... 42,187
- Margin Reduction..... 32,813

Errors (if applicable):

- Error Code _____
- Error Reason _____

FICC Starting Position:

- FICC Class ID..... B
- Side of the Market..... Short
- Cash Equivalent..... \$10,000,000

Spread Formed:

- FICC Class ID..... B
- Residual Margin Used..... 75,000
- Cash Equivalent Used..... 7,500,000
- Margin Disallowed..... 42,187
- Margin Reduction..... 32,813

APPENDIX H

Data Elements to Be Provided by CME and Returned by FICC

Cross Margining Input File—Data Elements

Header

1. FICC Account ID
2. Source Account ID
3. Source Class ID
4. Scan Range
5. Scan Risk
6. Side of the Market
7. Residual Number of Deltas
8. Cash Equivalent
9. Residual Margin Amount

Trailer

Cross Margining Output File—Data Elements:

Header

1. FICC Account ID
2. Source Account ID
3. Source Class ID
4. Side of the Market
5. Residual Number of Deltas
6. Residual Margin Amount
7. Residual Margin Used
8. Residual Margin Unused
9. Cash Equivalent Used
10. Cash Equivalent Unused
11. Margin Disallowed
12. Margin Reduction

Spread Formed

1. FICC Class ID
2. Residual Margin Used
3. Cash Equivalent Used
4. Margin Disallowed
5. Margin Reduction

FICC Positions

6. FICC Class ID
7. Side of the Market
8. Cash Equivalent

Error Codes and Reasons

1. Error Code
2. Error Reason

Trailer

APPENDIX H (continued)

Approximate Time Frames

Transmission	Approximate Time
CME Input File	11:00 p.m. (NY)
FICC Output File	1:00 a.m. (NY)

APPENDIX I

Loss Sharing Process

~~1. Determine the Cross Margin Gain (CMG) or Cross Margin Loss (CML) (isolating the side of the market that was offset) in each Offset Class (without regard to any Available Margin) for each Clearing Organization (CO), on a pro rata basis in proportion to Applicable Residual Margin Amount Used versus the total Applicable Residual Margin Amount in each such Offset Class.~~

~~When multiple COs are cross-margining with FICC, all of the calculations in this Appendix J will be applied to each FICC-CO arrangement, in accordance with each CO's pro rata share computed for each Offset Class.~~

~~The party who liquidates to a CMG or smaller CML is the "better off" party; the other party is the "worse off" party. This designation does not change during or as a result of the loss-sharing process.~~

~~2. If neither FICC nor CME has a Cross Margin Loss, no payment will be due to either Clearing Organization. If FICC and CME each has a Cross Margin Loss that exceeds the Cross Margin Reduction, or each has an equal Cross Margin Loss, such Guaranties will offset one another and no Preliminary Payment Obligation is due. However, there may, nevertheless, be a Maximization Payment due under Section 8C of the Agreement.~~

~~3. Determine the "Preliminary Payment Obligation"⁴ of the better off party to the worse off party as the **lowest** of:~~

~~(i) The CML on all Used Positions of the worse off party;~~

~~(ii) The higher of (a) the Base Amount of the Guaranty or (b) the CMG of the better off party, if any;~~

~~(iii) The amount required to equalize the two parties' Cross Margin Gains (Losses);~~

~~(iv) The amount by which the Base Amount of the Guaranty exceeds the better off party's CML if *both* parties have CMLs.~~

~~Payment in immediately available funds to be made within 3 Business Days following the calculation of the CMG/CML.~~

⁴ Exclusively as it relates to the independent liquidation of all Used Positions in cross-margining, and without regard to any Margin.

~~4. Determine whether an Adjustment Payment needs to be made, reflecting a return from the worse off party to the better off party of all or a portion of the Preliminary Payment Obligation. The amount of the Adjustment Payment will be the lower of :~~

~~(i) The Preliminary Payment Obligation (as determined in Step 3 above), or~~

~~(ii) The Aggregate Net Surplus (taking into account all Available Margin) of the worse off party.~~

~~Adjustment Payment to be made in immediately available funds within 3 Business Days following the calculation of the Aggregate Net Surplus (Aggregate Net Loss) amounts.~~

~~5. If, after satisfying all losses, including those unrelated to the cross-margining arrangement, one party has a remaining Aggregate Net Surplus, such Aggregate Net Surplus would be made available to the other party, subject to the priorities set forth in this Agreement, in the form a Maximization Payment, if the other party has an Aggregate Net Loss.~~

APPENDIX J

Examples of Loss-Sharing Process

Assumptions Related to Applicable Residual Margin Amounts

Offset Class	Applicable Residual Margin Amounts			Applicable Residual Margin Amounts Used		
	CO A	CO B	FICC	CO A	CO B	FICC
2-Year	50,000,000 L	10,000,000 L	150,000,000 S	50,000,000 L	10,000,000 L	60,000,000 S

Liquidation Results

Offset Class	Gain/(Loss) on Residual Positions			Cross Margin Gain/ (Loss)		
	CO A	CO B	FICC	CO A	CO B	FICC
2-Year	(70,000,000)	(5,000,000)	(30,000,000)	(70,000,000)	(5,000,000)	(12,000,000)

Concepts Illustrated:

- With multilateral cross-margining, eligible gain/loss is proportional. (i.e. FICC allocates 40% or \$60 / \$150 to participating COs.) Accordingly, 40% of FICC's gain or loss in that Offset Class will be allocated to the participating CO. (i.e. 40% of \$30 million is \$12 million)
- Cross Margin Gain / Cross Margin Loss is calculated without regard to Available Margin.
- This example assumes no disallowance and no minimum margin requirements.

APPENDIX J (Continued)

Examples of Loss Sharing Process

Step 1: Determine the Cross Margin Gains/Losses from Used Positions separately for each CO, in this Example CO A.

Offset Class	Applicable Residual Margin Amounts		Applicable Residual Margin Amounts Used	
	CO A	FICC	CO A	FICC
2-Year	50,000,000—L	150,000,000—S	50,000,000—L	-50,000,000—S (1/3-rd allocated)

Liquidation Results

Offset Class	Gain/(Loss) on Residual Positions		Cross Margin Gain/(Loss)	
	CO A	FICC	CO A	FICC
2-Year	(70,000,000)	(30,000,000)	(70,000,000)	(10,000,000)
				(1/3-rd allocated)

Concepts Illustrated:

- Cross Margin Gain / Cross Margin Loss is proportional to the percentage of the Applicable Residual Margin Used.
- Cross Margin Gain/Cross Margin Loss is calculated without regard to Available Margin.
- This example assumes no disallowance and no minimum margin requirements.

If neither FICC nor CME has a Cross Margin Loss, no payment will be due to either Clearing Organization. If FICC and CME each has a Cross Margin Loss that exceeds the Cross Margining Reduction, or each has an equal Cross Margin Loss, such guaranties shall offset one another and no Preliminary Payment Obligation to either Clearing Organization is due. Otherwise, proceed to Step 2.

APPENDIX J (Continued)

Examples of Loss Sharing Process

Step 2: Determine the Preliminary Payment Obligation

Offset Class	Applicable Residual Margin Amounts		Applicable Residual Margin Amounts Used		Cross Margin Reduction	
	CO-A	FICC	CO-A	FICC	CO-A	FICC
2-Year	50,000,000-L	150,000,000-S	50,000,000-L	50,000,000-S	50,000,000-L	50,000,000-S

Liquidation Results

Offset Class	Gain/(Loss) on Residual Positions		Cross Margin Gain/(Loss)	
	CO-A	FICC	CO-A	FICC
2-Year	(70,000,000)	(30,000,000)	(70,000,000)	(10,000,000)

The Preliminary Payment Obligation is determined based on the following formula:

Calculate the lowest of:

(i) Cross Margin Loss of the “worse-off” party		70,000,000
(ii) Higher of: (a) the Base Amount of the Guaranty or, (b) any Cross Margin Gain of the “better-off” party.	50 mil not applicable	50,000,000
(iii) Amount required to equalize the parties’ Cross Margin Gains (Losses).		30,000,000
(iv) Amount by which the Base Amount of the Guaranty exceeds the better-off party’s Cross Margin Loss if both parties have Cross Margin Losses.		40,000,000

Result: Preliminary Payment Obligation is calculated and made based on the lowest amount computed above, in this case \$30,000,000.

APPENDIX J (Continued)

Examples of Loss Sharing Process

Step 3: Determine whether an Adjustment Payment needs to be made where the worse off party returns all or part of the Preliminary Payment Obligation.

Offset-Class	Applicable Residual Margin Amounts		Applicable Residual Margin Amounts Used		Cross Margin Reduction	
	CO-A	FICC	CO-A	FICC	CO-A	FICC
2-Year	50,000,000-L	150,000,000-S	50,000,000-L	50,000,000-S	50,000,000-L	50,000,000-S

Liquidation Results

Offset-Class	Gain/(Loss) on Residual Positions		Cross Margin Gain/(Loss)		Aggregate Net Overall Surplus/(Loss) Including All Available Margin	
	CO-A	FICC	CO-A	FICC	CO-A	FICC
2-Year	(70,000,000)	(30,000,000)	(70,000,000)	(10,000,000)	(85,000,000)	50,000,000

Determine the Adjustment Payment as the lesser of the:

- Preliminary Payment Obligation (as determined in Step 2 above), or
— \$30,000,000
- Aggregate Net Surplus (taking into account all Available Margin) of the worse off party.
— \$0

Result: No Adjustment Payment is made because the worse off party does not have excess in other products.

APPENDIX J (Continued)**Examples of Loss Sharing Process****Step 4: Maximization Payment**

Offset Class	Applicable Residual Margin Amounts		Applicable Residual Margin Amounts Used		Cross-Margin Reduction	
	CO-A	FICC	CO-A	FICC	CO-A	FICC
2-Year	50,000,000-L	150,000,000-S	50,000,000-L	50,000,000-S	50,000,000-L	50,000,000-S

Liquidation Results

Offset Class	Gain/(Loss) on Residual Positions		Cross-Margin Gain/(Loss)		Aggregate Net Overall Surplus/(Loss) Including All Available Margin	
	CO-A	FICC	CO-A	FICC	CO-A	FICC
2-Year	(70,000,000)	(30,000,000)	(70,000,000)	(10,000,000)	(85,000,000)	55,000,000
Preliminary Payment Obligation					30,000,000	(30,000,000)
Aggregate Overall Surplus / Loss					(55,000,000)	25,000,000

Maximization Payment: FICC's \$25,000,000 is subject to a pro-rata allocation amongst CME and the Other COs as more completely described in the Agreement.

APPENDIX K**TIMING OF THE EFFECTIVENESS OF THE BASE AMOUNT OF THE GUARANTY**

<u>Business Day for which Cross-Margining Reduction is calculated</u>	<u>Cross-Margining Reduction as Reported by FICC at 1:00 a.m.*</u>	<u>Base Amount of the Guaranty Equals:</u>
<u>Monday</u>	<u>\$10 million</u>	<u>On Tuesday at 1:00 a.m. = \$10 million</u> <u>On Tuesday at 11:00 a.m. = \$10 million</u>
<u>Tuesday</u>	<u>\$9 million</u>	<u>On Wednesday at 1:00 a.m. = \$10 million</u> <u>On Wednesday at 11:00 a.m. = \$9 million</u>
<u>Wednesday</u>	<u>\$9 million</u>	<u>On Thursday at 1:00 a.m. = \$9 million</u> <u>On Thursday at 11:00 a.m. = \$9 million</u>
<u>Thursday</u>	<u>\$7 million</u>	<u>On Friday at 1:00 a.m. = \$9 million</u> <u>On Friday at 11:00 a.m. = \$7 million</u>
<u>Friday</u>	<u>\$10 million</u>	<u>On Saturday at 1:00 a.m. = \$10 million</u> <u>On Monday at 11:00 a.m. = \$10 million</u>

* All times are in New York time.